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Review Article

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Feeding in Cancer Patients: The Collaborative Role of Nurses and Dietitians

Jyoti Kumari[1], Rajendra Kumar Sahu[2]

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Abstract

Cancer and its treatments often pose significant nutritional challenges for patients, leading to malnutrition, which impacts physical, emotional, and psychological well being. Loss of appetite, taste changes, difficulty swallowing, and malabsorption are common issues faced by cancer patients, contributing to malnutrition. As key members of the healthcare team, nurses and dietitians are instrumental in addressing these challenges and ensuring that patients receive proper nutrition. They collaborate to develop personalized nutrition plans tailored to individual needs, treatment protocols, and side effect management. Various feeding techniques are employed to meet the nutritional requirements of cancer patients. The interdisciplinary collaboration between nurses and dietitians is crucial for providing comprehensive care to cancer patients. Nutritional assessments, modified diets, appetite stimulation, pain management, and oral care are some of the strategies employed by these healthcare professionals to support oral feeding. A cancer survivor continues their journey post-treatment, nutrition remains a significant aspect of survivorship care. Nurse and dietitian led survivorship programs focus on promoting healthy lifestyles, and physical activity, and addressing long term dietary challenges faced by cancer survivors. In conclusion, the collaboration between nurses and dietitians plays a pivotal role in addressing the nutritional challenges faced by cancer patients. By providing personalized nutrition plans and interventions, these healthcare professionals enhance patient care, treatment tolerability, and overall well-being. Through their combined efforts, cancer patients are better equipped to face the challenges of treatment, improve their nutritional status, and ultimately lead better lives during and after their battle with cancer.

Keywords: Cancer; Nutritional challenges; Difficulty swallowing; Personalized nutrition plans; Feeding techniques; Interdisciplinary collaboration; Nutritional assessments; Modified diets.

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INTRODUCTION

Cancer is a leading cause of morbidity and mortality in the world, accounting for nearly 10 million deaths in year of 2020, or nearly one in six deaths.[1] In the year 2020, the estimated count of cancer patients in India was 1,392,179, with the most prevalent types occurring in the breast, lung, mouth, cervix uteri, and tongue.[2] Cancer and its treatments often lead to various nutritional challenges, including loss of appetite, taste changes, difficulty

swallowing, and malabsorption.[3] Malnutrition, commonly observed in cancer patients, not only impacts their physical health but also affects their emotional and psychological well being. As key members of the healthcare team, nurses and dietitians play a critical role in assessing, planning, and implementing effective nutrition interventions to enhance patients' nutritional status and overall outcomes.

Feeding refers to the process of providing food to living organisms to sustain life, growth, and energy. It is a fundamental biological activity necessary for survival. Feeding ensures that organisms receive essential nutrients, such as proteins, carbohydrates, fats, vitamins, and minerals, required for various physiological functions and metabolic processes.

Feeding involves the consumption of food through various methods, such as chewing, swallowing, and digestion.[4] It is a complex process that starts with the selection and ingestion of food, followed by its breakdown into smaller particles during digestion, absorption of nutrients into the bloodstream, and elimination of waste products.

Proper feeding is crucial for maintaining good health and well being.[5] It provides the necessary energy for bodily functions, supports growth and development, and helps the body repair and regenerate tissues. Additionally, adequate nutrition plays a significant role in preventing malnutrition and various diet related diseases.

In the context of healthcare, feeding takes on a more specialized role when dealing with patients who may have specific nutritional needs due to medical conditions, surgeries, or treatments. For example, in the case of cancer patients, feeding becomes a critical aspect of care, and healthcare professionals, such as nurses and dietitians, play an essential role in providing appropriate nutritional support to improve treatment outcomes and overall quality of life. Oral Feeding, enteral feeding and Parental feeding are common types of feeding.

ORAL FEEDING

Nutritional products that provide an effective and non-invasive way for people to meet their nutritional needs. Oral feeding in cancer patients refers to the process of providing nutrition through the oral route, primarily by consuming food and fluids by mouth.[6] Cancer and its treatments can significantly impact a patient's ability to eat and maintain proper nutrition, making oral feeding a crucial aspect of cancer care. Many cancer patients experience various challenges related to eating, such as reduced appetite, taste changes, difficulty swallowing, mouth sores, and nausea, which can lead to malnutrition and negatively impact treatment outcomes and overall well being.

Types of diet used in oral feeding:

1. Normal Diet
2. Soft Diet
3. Liquid Diet
4. Clear Liquid Diet

Normal Diet

Normal diet is most frequently used in all health care settings, it is used for ambulatory who does not require a special diet. A normal diet, also known as a regular diet, is a balanced and well rounded eating plan that meets the nutritional needs of healthy individuals without any specific dietary restrictions or medical conditions. It is a general diet that provides essential nutrients required for overall health, growth, and maintenance of the body. The components of a normal diet typically include a variety of foods from different food groups, ensuring a mix of macronutrients (carbohydrates, proteins, and fats) and micronutrients (vitamins and minerals).

Characteristics of a Normal Diet for Patients:

1. ***Balanced Nutrition:*** A normal diet is characterized by a balanced distribution of macronutrients. It includes an appropriate amount of carbohydrates to provide energy, proteins to support tissue repair and growth, and fats for essential fatty acids and fat-soluble vitamins.
2. ***Varied Food Choices:*** A regular diet incorporates a wide range of food choices from various food groups. It includes fruits, vegetables, whole grains, lean proteins (such as poultry, fish, beans, and legumes), dairy products, and healthy fats (like olive oil, avocados, and nuts).
3. ***Adequate Hydration:*** Staying well hydrated is crucial for overall health. A normal diet encourages the consumption of sufficient water and other hydrating beverages, such as herbal teas and unsweetened fruit juices, to maintain proper hydration levels.
4. ***Portion Control:*** Monitoring portion sizes is essential in a normal diet to prevent

overeating and maintain a healthy weight. Moderation is key to avoid excessive calorie intake and potential weight gain.

5. ***Limited Added Sugars and Processed Foods:*** A normal diet limits the intake of added sugars and highly processed foods, which are often high in empty calories and low in nutritional value. Instead, it emphasizes whole, nutrient dense foods.
6. ***Regular Meal Patterns:*** Following a regular meal schedule is encouraged in a normal diet. Consistent meal times help regulate metabolism and maintain stable blood sugar levels throughout the day.
7. ***Mindful Eating:*** Patients following a normal diet are encouraged to practice mindful eating, paying attention to hunger cues and eating with awareness. This can help prevent overeating and promote a healthy relationship with food.

SOFT DIET

It may be used in acute infections, following surgery, and for patients who are unable to chew the normal food substances. The soft diet is made up of simple, easily digested food and contains no harsh fibre low in fat and no rich highly seasoned food. A soft diet for cancer patients is a specialized eating plan designed to provide easily digestible and gentle foods for individuals undergoing cancer treatment. Cancer and its treatments, such as chemotherapy and radiation therapy, can cause various side effects that may impact a patient's ability to eat and tolerate regular foods. A soft diet aims to alleviate discomfort, minimize irritation, and maintain adequate nutrition during this challenging time.

Characteristics of a Soft Diet for Cancer Patients:

1. ***Easily Chewable:*** Foods on a soft diet are soft and easy to chew. This is particularly important for patients experiencing mouth sores or dental issues as a result of cancer treatments.
2. ***Smooth Texture:*** The texture of foods is smooth and devoid of coarse or hard elements, which can be difficult to swallow or may exacerbate mouth irritation.
3. ***Well-cooked and Moist:*** Foods are typically well-cooked and moist to enhance their palatability and ease of swallowing.
4. ***Low in Spices and Seasonings:*** To avoid potential irritation, the use of spicy or heavily seasoned ingredients is limited.
5. ***Nutrient Dense:*** Despite the soft texture, the diet is designed to be nutrient dense, providing essential vitamins, minerals, and proteins for maintaining the patient's strength and immunity.

Foods Typically Included in a Soft Diet for Cancer Patients:

1. ***Cooked Cereals:*** Soft cooked oatmeal, cream of wheat, or rice porridge are gentle options that provide carbohydrates and fibres.
2. ***Mashed or Pureed Vegetables:*** Cooked vegetables such as mashed potatoes, pureed carrots, and squash offer essential vitamins and minerals in a smooth form.
3. ***Soft Fruits:*** Ripe bananas, applesauce, and well cooked fruits like pears or peaches can be included for added nutrients and fiber.
4. ***Soups and Broths:*** Clear soups and broths can be part of the diet to provide hydration and some nutrients. They should be strained to remove any solid pieces.
5. ***Soft Proteins:*** Tender, cooked meats like ground beef, minced chicken, or fish are included to provide protein.
6. ***Dairy Products:*** Soft dairy options like yogurt, pudding, and cottage cheese offer protein and calcium.
7. ***Soft Breads:*** Soft bread products, such as white bread or bread rolls without seeds, can be included if tolerated.
8. ***Nutritional Supplements:*** If needed, nutritional supplements can be recommended to ensure adequate nutrient intake.

Considerations for a Soft Diet:

9. ***Individual Tolerance:*** The tolerance for certain foods may vary among patients, so it is essential to tailor the soft diet to meet each patient's specific needs and preferences.
10. ***Hydration:*** Ensuring sufficient hydration is critical, especially if swallowing difficulties are present. Encouraging frequent sips of water or other hydrating beverages is vital.
11. ***Regular Nutritional Assessment:*** Regular assessments by a registered dietitian or healthcare professional are necessary to monitor the patient's nutritional status and adjust as needed.
12. ***Gradual Reintroduction of Solid Foods:*** As the patient's condition improves, a gradual transition back to regular foods can be

considered under the guidance of healthcare providers.

LIQUID DIET

A liquid diet for cancer patients is a specialized eating plan that consists of easily digestible, nutrient rich liquids. It is designed to provide essential nutrients and hydration to cancer patients who may experience difficulty chewing, swallowing, or digesting solid foods due to the side effects of cancer treatments or the progression of the disease. A liquid diet can help alleviate discomfort, provide nourishment, and maintain hydration during the challenging phases of cancer treatment. It is used in operations, gastritis, acute infections, and diarrhea. This diet is also suggested when milk is permitted and for patients not requiring special diets but too ill to eat a soft or normal diet.

Characteristics of a Liquid Diet for Cancer Patients:

1. ***Easily Consumed:*** The primary characteristic of a liquid diet is that it can be easily consumed without the need for extensive chewing or swallowing, making it suitable for patients with oral or esophageal complications.
2. ***Nutrient Dense:*** A liquid diet for cancer patients is carefully formulated to be nutrient dense, providing essential proteins, carbohydrates, fats, vitamins, and minerals to support the patient's nutritional needs.
3. ***Hydration:*** The diet emphasizes fluids to ensure adequate hydration, especially since cancer treatments can lead to increased fluid loss and dehydration.
4. ***Smooth Texture:*** Liquid foods on this diet have a smooth texture to avoid irritation or discomfort during ingestion.
5. ***Variety:*** Despite the limitations on texture, a liquid diet can offer a variety of flavors and nutrient sources through soups, broths, smoothies, and other blended options.

Foods Typically Included in a Liquid Diet for Cancer Patients:

1. ***Clear Liquids:*** Clear fluids, such as water, clear broths, and herbal teas, are included to maintain hydration.
2. ***Full Liquid Supplements:*** Commercially available full liquid nutritional supplements can provide a comprehensive source of essential nutrients.
3. ***Pureed Soups:*** Soups made from pureed vegetables or soft cooked meats can provide additional nutrients and flavors.
4. ***Smoothies and Shakes:*** Blended beverages made with fruits, vegetables, yogurt, milk, or protein powders offer a nutritious and palatable option.
5. ***Nutritional Puddings:*** Commercially available nutritional puddings can provide a soft and nutrient dense treat.
6. ***Vegetable or Fruit Juices:*** 100% vegetable or fruit juices can be included, but they should be consumed in moderation due to their natural sugars.
7. ***Protein Shakes:*** Protein shakes made with protein powders or liquid nutritional supplements can contribute to the patient's protein intake.

Considerations for a Liquid Diet:

1. ***Individualized Approach:*** Each patient's tolerance and nutritional requirements may vary, so a liquid diet plan should be tailored to meet their specific needs and preferences.
2. ***Medical Supervision:*** A liquid diet for cancer patients should be implemented under the guidance of healthcare professionals, including registered dietitians and oncologists, to ensure the patient's nutritional needs are met adequately.
3. ***Gradual Transition:*** In some cases, a liquid diet may be temporary, serving as a transitional phase until the patient can tolerate soft or solid foods again.
4. ***Supplemental Nutrition:*** Nutritional supplements may be recommended to provide additional vitamins and minerals as needed.

CLEAR LIQUID DIET

Whenever an acute illness or surgery, produces a marked intolerance for food as may be evident by nausea, anorexia, distention, and diarrhea. It is advisable to restrict the intake of food. A clear liquid diet for cancer patients is a restricted eating plan that includes only liquids that are transparent and easily digestible. It is commonly prescribed before and after medical procedures or surgeries, including cancer treatments, to provide hydration and some essential nutrients while giving the digestive system a break. The clear liquid diet is not intended for long-term use and lacks sufficient nutrients for extended periods; thus, it is usually

recommended for short durations.

Characteristics of a Clear Liquid Diet for Cancer Patients:

1. ***Transparency:*** The liquids included in a clear liquid diet are transparent and leave little to no residue. They allow for clear visualization of the digestive tract during medical procedures.
2. ***Easy Digestion:*** Clear liquids are easily digested and do not put a strain on the gastrointestinal system.
3. ***Hydration:*** The primary purpose of the clear liquid diet is to maintain hydration, as it provides fluids to prevent dehydration during times when solid foods are restricted.
4. ***Limited Nutrients:*** The clear liquid diet lacks essential nutrients like proteins, fats, and fiber, which are vital for proper nutrition. As a result, it is not suitable for long term use.

Foods Typically Included in a Clear Liquid Diet for Cancer Patients:

1. ***Water:*** Plain water is the primary source of hydration on a clear liquid diet.
2. ***Clear Broths:*** Clear soups or broths made from chicken, beef, or vegetable stock are included.
3. ***Herbal Teas:*** Non-caffeinated herbal teas are permitted, providing additional hydration and some soothing properties.
4. ***Clear Fruit Juices:*** 100% fruit juices without pulp, such as apple or grape juice, can be included in moderation for added calories and nutrients.
5. ***Clear Carbonated Beverages:*** Non-caffeinated and non-colored carbonated beverages like ginger ale can be consumed.
6. ***Jell-O and Popsicles:*** Gelatin based desserts and popsicles without any fruit or solid pieces can provide some variety.

Considerations for a Clear Liquid Diet:

1. ***Short-Term Use:*** The clear liquid diet is not intended for extended periods due to its limited nutritional content. It is typically used for 24 to 48 hours before or after medical procedures.
2. ***Consultation with Healthcare Team:*** Cancer patients should follow a clear liquid diet only under the guidance of their healthcare team, including oncologists and registered dietitians.
3. ***Nutritional Supplementation:*** If the patient needs to be on a clear liquid diet for an extended period, supplemental nutrition through intravenous or enteral feeding may be required to ensure adequate nutrient intake.
4. ***Gradual Transition:*** After following a clear liquid diet, patients will need to transition back to a regular diet gradually, reintroducing soft and solid foods as tolerated.

Importance of Oral Feeding in Cancer Patients:

1. ***Maintaining Nutritional Status:*** Adequate nutrition is vital for cancer patients to support their immune system, promote healing, and prevent muscle wasting. Oral feeding helps patients obtain essential nutrients necessary for their bodies to cope with the physical and metabolic demands of cancer and its treatments.
2. ***Enhancing Quality of Life:*** Enjoying meals and maintaining the ability to eat orally can significantly improve a patient's quality of life during cancer treatment. It provides comfort, a sense of normalcy, and emotional well being by allowing patients to continue engaging in the social and cultural aspects of eating.
3. ***Supporting Treatment Tolerance:*** Well nourished patients may better tolerate cancer treatments, such as chemotherapy and radiation therapy. Sufficient nutrition can reduce treatment related side effects, enhance recovery, and enable patients to complete their prescribed therapies.

Strategies to Support Oral Feeding in Cancer Patients:

1. ***Nutritional Assessment:*** Healthcare professionals, including nurses and dietitians, conduct thorough nutritional assessments to identify any malnutrition or potential nutritional risks in cancer patients. This assessment helps in developing personalized nutrition plans tailored to the patient's specific needs and treatment regimen.
2. ***Modified Diets:*** Dietitians can design modified diets that address taste changes, swallowing difficulties, and other side effects of cancer treatments. Soft or pureed diets, cold or frozen foods, and avoiding certain tastes or textures may be recommended to improve oral intake.
3. ***Nutritional Counselling:*** Providing patients

and their families with nutritional counseling can educate them about dietary adjustments, meal planning, and strategies to manage treatment related side effects. This counseling empowers patients to make informed decisions about their dietary choices.

4. ***Appetite Stimulation:*** Nurses and healthcare providers can suggest appetite stimulating measures to encourage patients to eat more. This may include serving small, frequent meals, incorporating favorite foods into the diet, or using aromatherapy to enhance appetite.
5. ***Pain and Symptom Management:*** Pain and discomfort can interfere with eating. Nurses can work with the healthcare team to manage symptoms effectively, enabling patients to eat more comfortably.
6. ***Oral Care:*** Cancer treatments may cause oral mucositis and other mouth related issues, making eating difficult. Proper oral care, such as regular mouth rinsing and maintaining good dental hygiene, can improve patients' ability to consume food orally.
7. ***Monitoring and Follow-up:*** Regular monitoring of a patient's nutritional status is essential to track progress and adjust the nutrition plan as needed. Follow-up appointments with dietitians and healthcare providers allow for ongoing support and adjustments based on the patient's changing needs.

ENTERAL NUTRITION

Enteral nutrition, also known as tube feeding, is a method of providing nutrition to cancer patients who are unable to consume adequate food orally or have difficulty swallowing due to the side effects of cancer treatments or the progression of the disease. Enteral nutrition involves delivering liquid nutrients directly into the gastrointestinal tract through a tube, bypassing the mouth and oesophagus. This method ensures that patients receive the necessary nutrients, including proteins, carbohydrates, fats, vitamins, and minerals, to support their nutritional needs and maintain their overall health during cancer treatment.

Enteral nutrition can be provided by tube feeding. By definition, enteral feeding means within or by way of the gastrointestinal tract. Enteral nutrition is given to an individual who has a functioning gut and is unable or unwilling to achieve adequate oral intake. If the gut is functioning it should be used, enteral feeding retains epithelial structure and functioning of the GI tract. It also increases mucosal immunity.

Indications for Enteral Nutrition in Cancer Patients:

1. ***Dysphagia:*** Cancer patients who experience difficulty swallowing, often due to throat or oesophageal cancer or the side effects of radiation therapy, may require enteral nutrition to ensure proper nutrition.
2. ***Oral Mucositis:*** Inflammation and ulceration of the mouth and throat caused by cancer treatments can make eating painful and difficult, making enteral nutrition a viable option.
3. ***Malnutrition:*** Cancer and its treatments can lead to malnutrition, and enteral feeding can help address nutritional deficiencies and support the patient's immune system and overall well being.
4. ***Bowel Obstruction:*** In cases where cancer has caused bowel obstruction or mechanical complications, enteral nutrition may be used as a safe alternative to oral feeding.

Types of Enteral Feeding:

1. ***Nasogastric (NG) Tube:*** The tube is inserted through the nose and advanced into the stomach, allowing for the administration of liquid nutrition.
2. ***Naso-jejunal (NJ) Tube:*** Similar to the NG tube, the tube is advanced into the jejunum (the second part of the small intestine) for patients who cannot tolerate feeding into the stomach.
3. ***Percutaneous Endoscopic Gastrostomy (PEG) Tube:*** A more long-term option, a PEG tube is inserted directly through the abdominal wall into the stomach, allowing for feeding without the need for repeated tube insertions.
4. ***Jejunostomy (J-Tube):*** Similar to the PEG tube, the tube is inserted directly into the jejunum, bypassing the stomach.

Considerations for Enteral Nutrition:

1. ***Nutritional Assessment:*** A thorough nutritional assessment is crucial to determine the patient's specific needs and develop an appropriate enteral nutrition plan.
2. ***Medical Supervision:*** Enteral feeding requires close monitoring and adjustments by a healthcare team, including registered

dietitians and medical professionals.

3. ***Tube Care and Hygiene:*** Proper care and hygiene of the tube insertion site are essential to prevent infections and complications.
4. ***Gradual Transition:*** When a patient's oral intake improves, transitioning back to oral feeding or a combination of oral and tube feeding may be considered.

Feeding techniques refer to the different methods used to provide nutrition and sustenance to individuals who may have specific needs or challenges related to eating. These techniques are tailored to accommodate various health conditions, age groups, and medical requirements. Here are some common types of feeding techniques:

1. ***Oral Feeding:*** The most common and natural feeding technique where food and liquids are consumed through the mouth and swallowed.

2. Enteral Feeding:

2.1. Nasogastric (NG) Feeding: Liquid nutrition is delivered directly into the stomach through a tube inserted through the nose and down the oesophagus.

2.2. Naso-jejunal (NJ) Feeding: Liquid nutrition is delivered into the jejunum, the second part of the small intestine, through a tube inserted through the nose.

3. Gastrostomy Feeding (PEG or G-tube):

1. ***Percutaneous Endoscopic Gastrostomy (PEG):*** A tube is inserted directly through the abdominal wall into the stomach, allowing for long-term feeding directly into the stomach.
2. ***G-tube (Gastrostomy Tube):*** A generic term for various types of tubes placed directly into the stomach through the abdominal wall.
3. ***Jejunostomy Feeding (J-tube):*** A tube is inserted directly into the jejunum, bypassing the stomach, for patients who cannot tolerate gastric feeding.
4. ***Total Parenteral Nutrition (TPN):*** Also known as intravenous nutrition, TPN involves delivering a balanced mixture of nutrients directly into the bloodstream through a central venous catheter, bypassing the digestive system entirely.
5. ***Bolus Feeding:*** A method of enteral feeding where a larger volume of liquid nutrition is delivered through a feeding tube in a short period, similar to a meal.
6. ***Continuous Feeding:*** A method of enteral feeding where liquid nutrition is delivered continuously over an extended period, usually through a pump, providing a steady flow of nutrients.
7. ***Gravity Drip Feeding:*** A method of enteral feeding where liquid nutrition is delivered via a feeding tube using gravity, without the need for a pump.
8. ***Tube-to-Oral Transition:*** A feeding technique that involves transitioning a patient from enteral feeding (tube feeding) to oral feeding as their ability to eat orally improves.

TOTAL PARENTERAL NUTRITION

Peripheral nutrition is a means of nutrition support in which the parental solution is administered directly into the peripheral vein.[7] It is indicated for anticipated short term use because it usually does not meet all the nutritional needs of patients.

Total parenteral nutrition (TPN) is a method of providing comprehensive nutrition to cancer patients who are unable to consume food orally or through enteral feeding due to severe gastrointestinal issues, malabsorption problems, or other medical conditions. TPN involves delivering a balanced mixture of nutrients directly into the bloodstream through a central venous catheter, bypassing the digestive system entirely. This allows cancer patients to receive all the necessary macronutrients, micronutrients, vitamins, and minerals required to support their nutritional needs and maintain their overall health during cancer treatment.

In parenteral nutrition, a sterile dense solution is infused intravenously by peripheral or central venous access, entirely bypassing the digestive tract. Parental nutrition is for those patients who are not capable of digesting and absorbing nutrients and who are severely malnourished and for catabolic patients.

Parenteral nutrition is the life saving modality in critically ill patients. Undernourished patients scheduled for high risk surgeries can benefit from parental nutrition with lower complication rates and shorter hospital stays. Reducing the intake of total calories to moderate levels may improve outcomes in mechanically ventilated patients in ICU. Providing high protein hypo calories in parental nutrition can minimize the risk of overfeeding in obese critically ill patients. And facilitate good glucose control in patients with diabetes.

Indications for Total Parenteral Nutrition in Cancer Patients:

1. ***Severe Malnutrition:*** Cancer patients who have experienced significant weight loss and malnutrition may require TPN to rapidly restore their nutrient levels and improve their immune function.
2. ***Gastrointestinal Issues:*** Patients with advanced cancer or undergoing intense treatments may experience gastrointestinal complications that prevent them from absorbing nutrients from regular food or enteral feeding.
3. ***Bowel Obstruction:*** In cases where cancer has caused complete bowel obstruction or other mechanical complications, TPN may be the only option for providing nutrition.
4. ***Oral Mucositis:*** Painful mouth sores and inflammation caused by cancer treatments can make eating or enteral feeding impossible, necessitating TPN.
5. ***Impaired Digestive Function:*** Cancer patients with conditions such as short bowel syndrome may require TPN as their primary source of nutrition.

Components of Total Parenteral Nutrition:

TPN solutions are typically customized based on the individual patient's specific nutritional needs, and they can contain a combination of the following components:

1. ***Amino Acids:*** To provide protein for tissue repair and support immune function.
2. ***Glucose:*** As a source of carbohydrates and energy.
3. ***Lipids (Fats):*** To supply essential fatty acids and additional calories.
4. ***Electrolytes:*** Such as sodium, potassium, calcium, and magnesium, to maintain proper fluid balance and nerve function.
5. ***Vitamins:*** To prevent nutritional deficiencies and support various physiological functions.
6. ***Trace Elements:*** Such as zinc, copper, and selenium, which are essential for enzyme function and immune support.

Considerations for Total Parenteral Nutrition:

1. ***Medical Supervision:*** TPN requires careful monitoring and adjustment by a multidisciplinary healthcare team, including registered dietitians, pharmacists, and medical professionals.
2. ***Central Venous Catheter:*** Placement of a central venous catheter is necessary to deliver the TPN solution into a large vein near the heart.
3. ***Risk of Infections:*** TPN increases the risk of bloodstream infections, so maintaining strict sterile techniques and proper catheter care is critical.
4. ***Gradual Transition:*** As a patient's condition improves, transitioning to enteral feeding or oral intake may be considered.

The Impact of Malnutrition in Cancer Patients:

Malnutrition is a common concern among cancer patients, resulting from the tumor's metabolic demands, side effects of treatments, and the physiological response to the disease. It leads to decreased tolerance to treatments, impaired immune function, increased risk of infections, reduced muscle mass, and diminished quality of life. Recognizing the signs of malnutrition is vital for early intervention and improved patient outcomes.

The Role of Nurses in Nutritional Care:

Nurses are at the forefront of patient care, and their involvement in nutritional support is invaluable. They monitor patients for signs of malnutrition, provide education on nutrition, assist with oral intake or enteral feedings, and assess patients' response to dietary interventions. Additionally, nurses address side effects that impact nutrition, such as nausea, vomiting, and mucositis, and collaborate with dietitians to develop personalized nutrition plans for individual patients.

The Role of Dietitians in Cancer Patient Nutrition:

Dietitians are specialized healthcare professionals with expertise in clinical nutrition. Their role in cancer care involves conducting comprehensive nutrition assessments, evaluating patients' dietary habits, and designing tailored nutrition plans that account for patients' treatment protocols and individual needs. Dietitians also educate patients and their families about appropriate food choices, portion control, and safe ways to manage nutrition-related side effects.

Addressing Special Nutritional Needs:

Different cancer types and treatments necessitate unique dietary considerations. For instance, patients with gastrointestinal cancers may require modified diets to manage symptoms, while those

undergoing radiation therapy might experience taste alterations. Dietitians and nurses collaborate to develop appropriate meal plans, supplements, and feeding routes to ensure patients receive adequate nutrition while minimizing treatment related side effects.

The Role of Nutrition in Cancer Survivorship:

Beyond the treatment phase, nutrition continues to play a vital role in cancer survivorship. Nurse and dietitian led survivorship programs focus on maintaining a healthy lifestyle, promoting physical activity, and addressing long-term dietary challenges faced by cancer survivors.

The Importance of Interdisciplinary Collaboration:

Effective communication and collaboration between nurses and dietitians are essential for providing comprehensive care to cancer patients. Regular meetings, case discussions, and sharing patient progress facilitate a coordinated approach to nutritional management and lead to better patient outcomes.

CONCLUSION

Cancer and its treatments present various nutritional challenges for patients, leading to potential malnutrition and its negative impact on physical, emotional, and psychological well being. Nurses and dietitians play pivotal roles in addressing these challenges and improving patients' nutritional status and overall outcomes. Through oral feeding, enteral feeding, and parental nutrition, healthcare professionals can tailor nutrition plans to meet individual patient's needs and ensure they receive essential nutrients. Strategies such as nutritional assessment, modified diets, appetite stimulation, and pain management are employed to support oral feeding in cancer patients. Furthermore, enteral feeding and parental nutrition are utilized when oral intake is not feasible, providing comprehensive nutrition and aiding patient recovery. Proper feeding techniques are crucial for maintaining good health and well being in both healthy individuals and those with medical conditions. The careful selection of diets, such as normal, soft, liquid, clear liquid, and diabetic diets, ensures appropriate nutrition for various physiological functions and metabolic processes. The successful implementation of nutritional care requires close collaboration between nurses, who are at the forefront of patient care, and dietitians, who possess specialized expertise in clinical nutrition. By working together, they can assess patients' unique nutritional needs, design tailored plans, and address specific dietary challenges arising from cancer and its treatments. This interdisciplinary approach enhances patient care, leading to improved treatment tolerability, better recovery, and enhanced quality of life for cancer patients. As the journey does not end with cancer treatment, nutrition remains a critical aspect of survivorship care. Through survivorship programs, nurses and dietitians can support cancer survivors in maintaining a healthy lifestyle and addressing long-term dietary considerations, promoting their overall well being. In conclusion, the collaboration between nurses and dietitians in addressing the nutritional needs of cancer patients is instrumental in supporting their journey towards better health and improved quality of life. With their combined efforts, patients can be better equipped to face the challenges posed by cancer and its treatments, enhancing their chances of successful recovery and survivorship.

REFERENCES

1. World Health Organisation. Cancer. World Health Organisation. [Online] February 3, 2022. [Cited: September 16, 2023.] https://www.who.int/news-room/fact-sheets/detail/cancer.
2. Cancer Statistics, 2020: Report From National Cancer Registry Programme, India. Mathur Prashant, Sathishkumar Krishnan, Chaturvedi Meesha, Das Priyanka, Sudarshan, Kondalli Lakshminarayana, Santhappan Stephen, Nallasamy Vinodh, John Anish, Narasimhan Sandeep, Roselind, Francis Selvaraj, and on behalf of ICMR-NCDIR-NCRP Investigator G. 2020, JCO Global Oncology, pp. 1063-1075.
3. National Cancer Institute (NCI). Nutrition in Cancer Care (PDQ®)–Patient Version. National Cancer Institute (NCI). [Online] September 6, 2023. [Cited: September 16, 2023.] https://www.cancer.gov / about-cancer / treatment / side-effects / appetite-loss /nutrition-pdq#:~: text = Stem %20 cell %20 transplant.-, Cancer %20 and %20 cancer %20 treatments % 20 may % 20 cause %20 malnutrition., a %20 lack %20 of %20key %20 nutrients.
4. American Speech-Language-Hearing Association. Pediatric Feeding and Swallowing. American Speech-Language-Hearing Association. [Online] [Cited: September 16, 2023.] https://www.asha.org/practice-portal/clinical-topics/pediatric-feeding-and-swallowing/.
5. World Health Organisation. Healthy diet. World Health Organisation. [Online] [Cited: September 16, 2023.] https://www.who.int/initiatives/behealthy / healthy-diet#:~:text =A %20healthy %20 diet %20

is %20 essential, are %20 essential % 20 for %20 healthy % 20diet.

6. Enteral feeding methods for nutritional management in patients with head and neck cancers being treated with radiotherapy and/or chemotherapy. Nugent B, Lewis S, O'Sullivan JM. 1, January 31, 2013, Cochrane Database Syst Rev. 2013.
7. Hamdan M, Puckett Y. Total Parenteral Nutrition. StatPearls Treasure Island . [Online] StatPearls Publishing, July 04, 2023. [Cited: September 10, 2023.] https://www.ncbi.nlm.nih.gov/books/NBK559036/.
8. Byjus. Nutrition In Living Organisms & Modes Of Nutrition. byjus. [Online] byjus. [Cited: September 16, 2023.] https://byjus.com /biology /nutrition -modes -living-organisms /#:~:text=% E2%80%9CNutrition % 20 is % 20 the %20 process % 20 of, for %20 proper % 20 functioning % 20 and %20 growth.

Case Report

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Incidence of AVH Hepatitis-A in children's in Age Group 4-14 years in June 2023 Reported

Mayank Chugh[1], Satender Tanwar[2]

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Abstract

Viral hepatitis, caused by hepatitis viruses A through E, still remains a major public health problem in India. AVH being most commonly encountered seasonal disease found in the epidemic area of northern India in Bhiwani Haryana. As it is most common water borne infection found in the children's at the age group between the 4-14 years of age. The HAV is most common than the HEV infection found in the children's, the cases has been reported and found in the study which has been found here and cases reported and achieved and found more of HAV Cases. The cases here reported have been between the Months of June especially during the summer vacation of the school. The inference drawn here is conclusive of the water borne disease such as the diarrhea, and the Hepatitis A.[1] The observation made during the summer season, the more exposure to the water due to thirst, excessive travelling, and swimming pool and water parks.

The maximum cases reported here and found to have the history of above said ailments.

Keywords: AVH; HAV; Jaundice; Vomiting; Pain Abdomen; Vaccination.

INTRODUCTION

Viral hepatitis, caused by hepatitis viruses A through E, stillremains a major public health problem in India.

Hepatic disease have found to burden the society in all age groups.[2] No age group isspare of these ailments varies from acute to chronic and mild to fulminant in Nature.[3] The Child age groups is the most tender one and maximally effected the children at various age groups in the present study the children, effected found to have history of fever with persisting vomiting and pain abdomen on evaluation found to have the Hepatitis A on laboratory investigation.[4]

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CASE STUDY

- 20 Children Age group 4-14 years taken for study on complaints of pain abdomen, vomiting and restlessness with dehydration state.

Age Group	Male	Female
4-14 Years.	12	8

- Complaints Observed in the following age groups.

Complaints	Male	Female
Fever	++++	+++
Pain Abdomen	++	++
Nausea	++++	+++
Vomiting	++	++
Icterus	+++	+++

VIRAL	Male	Female
A	10	6
E	2	1

Acute viral hepatitis can be caused by five major hepatitis viruses:

- Hepatitis A
- Hepatitis B[5]
- Hepatitis C
- Hepatitis D
- Hepatitis E[6]

In this study the patient observed and found to have the Viral A, serotypes most common the following observation has been made which shows the following. The hepatitis A virus is the most common cause of acute hepatitis in seasonal.[7]

- A poor appetite
- A general feeling of illness (malaise)
- Nausea and vomiting
- Fever
- Pain in the upper right part of the abdomen
- Blood tests[8]

OBSERVATION

From the above said data and History and the clinical examination done suggestive of the all have given following details:

- History of Travelling
- Water intake outside
- Swimming pool they have enjoyed at it was summer vacation period
- Consumption of Unhealthy Liquid food, Water, Etc from outside stall and shops

CONCLUSION

Viral Hepatitis[9] being most common and commonly found in water born infection, and similar statistic and data has been achieved from this study that during the summer vacation maximum travelling[10] done by school going children's and enjoyed summery vacation outside with their family in water world, fun world and swimming pools.[11]

As the data and statistics shows that Hepatitis Being most widely spread by water infection similarly. Found in this study and the future preventive measure and precautionary tool can be framed to minimize the outbreak of such viral phenomenon.[12]

REFERENCES

1. Alberts CJ, Boyd A, Bruisten SM, Heijman T, Hogewoning A, Rooijen MV, Siedenburg E, Sonder GJB. Hepatitis A incidence, seroprevalence, and vaccination decision among MSM in Amsterdam, the Netherlands. Vaccine. 2019 May 09;37(21):2849-2856.
2. Johnson KD, Lu X, Zhang D. Adherence to hepatitis A and hepatitis B multi-dose vaccination schedules among adults in the United Kingdom: a retrospective cohort study. BMC Public Health. 2019 Apr 15;19(1):404.
3. Brennan J, Moore K, Sizemore L, Mathieson SA, Wester C, Dunn JR, Schaffner W, Jones TF. Notes from the Field: Acute Hepatitis A Virus Infection Among Previously Vaccinated Persons with HIV Infection - Tennessee, 2018. MMWR Morb Mortal Wkly Rep. 2019 Apr 12;68(14):328-329.
4. Wilson E, Hofmeister MG, McBee S, Briscoe J, Thomasson E, Olaisen RH, Augustine R, Duncan E, Bamrah Morris S, Haddy L. Notes from the Field: Hepatitis A Outbreak Associated with Drug Use and Homelessness - West Virginia, 2018. MMWR Morb Mortal Wkly Rep. 2019 Apr 12;68(14):330-331.
5. Tan EM, Marcelin JR, Virk A. Pre-travel counseling for immunocompromised travelers: A 12-year single-center retrospective review. Infect Dis Health. 2019 Feb;24(1):13-22.
6. Nelson NP, Link-Gelles R, Hofmeister MG, Romero JR, Moore KL, Ward JW, Schillie SF. Update: Recommendations of the Advisory Committee on Immunization Practices for Use of Hepatitis A Vaccine for Postexposure Prophylaxis and for Preexposure Prophylaxis for International Travel. MMWR Morb Mortal Wkly Rep. 2018 Nov 02;67(43):1216-1220.
7. Gervasi G, Biticchi M, Zaratti L, Franco E. [Epidemics of Hepatitis A and opportunities for vaccination: a focus on the category of men who practice sex with men (MSM)]. IgSanitaPubbl. 2018 May-Jun;74(3):295-304.

8. Waszczuk K, Waszczuk E, Szenborn L. Can we better protect patients with inflammatory bowel disease against infections - patient attitude and personal immunization knowledge. Acta Gastroenterol Belg. 2018 Apr-Jun; 81(2):257-261.
9. O'Leary ST, Kimberlin DW. Update From the Advisory Committee on Immunization Practices. J Pediatric Infect Dis Soc. 2018 Aug 17;7(3):181-187.
10. Singh V, Crosby RA, Gratzer B, Gorbach PM, Markowitz LE, Meites E. Disclosure of Sexual Behavior Is Significantly Associated With Receiving a Panel of Health Care Services Recommended for Men Who Have Sex With Men. Sex Transm Dis. 2018 Dec;45(12):803-807.
11. Doshani M, Weng M, Moore KL, Romero JR, Nelson NP. Recommendations of the Advisory Committee on Immunization Practices for Use of Hepatitis A Vaccine for Persons Experiencing Homelessness. MMWR Morb Mortal Wkly Rep. 2019 Feb 15;68(6):153-156.
12. Tajammal R, Ali IA, Syed T, Nusrat S. Immunization Against Hepatitis A Virus and Hepatitis B Virus in Patients with Chronic Liver Disease: Are We Doing a Good Job? Cureus. 2018 Apr 24;10(4):e2528.

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Case Report

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Loss of Conciouness is not always Neurological Aetiology, Must not Forget Cardiogenic Event: A Single Case Study

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Abstract

Medical education relies upon the through clinical examination and history taking in exact and proper diagnosis of the patient.[1] The patient who has the symptoms which has the presentation of the multiple system sharing the same presentation need[2] judicious examination and through evaluation. Similarly the article case study selected here is the syncope[2] vs Siezure where both have the common feature such as the LOC– Loss of consciousness need the through evaluation for the same.[3]

Differentiating between syncope and seizures, a relatively easy task, is not quite so simple in the ED.[4] Transient loss of consciousness can occur from seizure or syncope, and the emergency clinician must distinguish between the two general[5] conditions, especially if it's the patient's first episode, and direct the appropriate initial evaluation and follow-up.[6]

Ten percent of patients diagnosed as having a seizure do not have a seizure disorder but rather a cardiovascular event that caused transient loss of consciousness.[7] Basic ED labs and an ECG, even an out patient EEG, are not always sensitive enough to differentiate seizures[8] from syncope. Long-term ECG monitoring, as well as tilt table testing, are some tools that can further reveal the origin of the transient loss of consciousness.[9]

Keywords: Cardiogenic; ECG; EEG; Holter; LOC; Syncope; Siezures.

INTRODUCTION

There was no problem calling this patient's event a seizure, and there was no confusing it with syncope.[10] It was observed by physicians, there was a tonic phase of muscular activity, clonic movements lasted 60 seconds,[11] the patient remembered nothing of the event, and he was disoriented for 15 minutes.[12] Differentiating a seizure from syncope in an event that occurred outside the hospital that was witnessed only by non medical personnel makes the task more formidable.[13]

Differentiating between syncope and seizures, a relatively easy task, is not quite so simple in the ED.[14] Transient loss of consciousness can occur from seizure or syncope, and the emergency clinician must distinguish between the two general conditions, especially if it's the patient's first episode, and direct the appropriate initial evaluation and follow-up.[15] If one concludes that the event was

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syncope, it's usually from a cardiovascular event, and some can be serious or even fatal.[16]

If one believes that the episode was caused by a seizure, neurological testing and consultation is required. That would seem to straight forward, but 10-20 percent of patients diagnosed as having a seizure do not have a seizure disorder but rather a cardiovascular event that caused transient loss of consciousness.[17] A seizure resulting from syncope is termed convulsive syncope, and seizure activity occurs in up to 20 percent of episodes of syncope. Seizures can result from an occult cardiac etiology, and some causes, such as an episodic arrhythmia, can escape elucidation in the ED. Basic ED labs and an ECG, even an outpatient EEG, are not always sensitive enough to differentiate seizures from syncope. Long-term ECG monitoring, as well as tilt table testing,[18] are some tools that can further reveal the origin of the transient loss of consciousness. The commonly used short-term Holter cardiac monitor is a popular intervention but of minimal actual value.[19]

Most clinicians would simply believe the diagnosis if a patient comes to the ED with loss of consciousness and gives a history of prior seizures. He would then check the anticonvulsant level, adjust any necessary derangements in the drug levels, and send the patient on his way.[20] We usually add another drug or attribute seizures to noncompliance. As it turns out, a significant number of patients who are told they have a seizure disorder actually do not. This may be one reason we see patients on anticonvulsants who continue to seize. It's important to take a good history to distinguish seizure from syncope with the hope of getting the patient directed to the right consultant.[21]

CASE STUDY

- A 56 years old male presented with repeated episodes of LOC.
- He has been evaluated by neurosurgeon and investigated same.
- After investigation started on the AED – Anti -epileptic Drugs.
- Even after the AED he was continues to have LOC.
- No ECG and Cardiac evaluation done at primary level.

Thereby one day when he had the LOC he was taken to the ED at Physician available nearby where he had been evaluated and found to have ECG Suggestive of CHB.

- ECG repeat which was suggestive of same CHB.

CONCLUSION

The above said patient presented with the complaints of repeated episode of syncope and LOC which either have cardiogenic as well as neurological cause which needs the judicious evaluation and thorough examination.[22]

The case initially treated by the neurosurgeon, started with the antiepileptic's but patient continues to have the loss of consciousness and similar complaints even after starting the AEDs, that's is suggestive of that pathology is not of neurological originated. The case later evaluated by physician and found out to CHB which life is threatening if not treated at timely manner.[23]

REFERENCES

1. Seltzer S., McCabe B. F. Perilymph fistula: the Iowa experience. *Laryngoscope*. 1986;96:37–49.
2. Minor L. B., Solomon D., Zinreich J. S., *et al*. Sound- and/or pressure-induced vertigo due to bone dehiscence of the superior semicircular canal. *Arch Otolaryngol Head Neck Surg*. 1998;124:249–258.
3. Carey J. P., Minor L. B., Nager G. T. Dehiscence or thinning of bone overlying the superior semicircular canal in a temporal bone survey. *Arch Otolaryngol Head Neck Surg*. 2000;126:137–147.
4. Headache Classification Subcommittee of the International Headache Society. *The International Classification of Headache Disorders. 2nd ed*. Oxford, England: Blackwell Publishing; 2003. pp. 24–36.
5. Neuhauser H. K., Leopold M., von Brevern M., *et al*. The interrelations of migraine, vertigo, and migrainous vertigo. *Neurology*. 2001;56:436–441.
6. Neuhauser H. K., Lempert T. Diagnostic criteria for migrainous vertigo. *Acta Otolaryngol*. 2005;125:276–279.
7. Kim H. Y., Chung C. S., Moon S. Y., *et al*. Complete nonvisualization of basilar artery on MR angiography in patients with vertebrobasilar ischemic stroke: favorable outcome factors. *Cerebrovasc Dis*. 2004;18:269–276.
8. Grad A., Baloh R. W. Vertigo of vascular origin. Clinical and electronystagmographic features in 84 cases. *Arch Neurol*. 1989;46:281–284.
9. Colman N., Nali K., Ganzeboom K. S., Shen W. K., Reitsma J., Linzer M., *et al*.. (2004). Epidemiology of reflex syncope. *Clin. Auton*. Res. 14 Suppl. 1, i9–i17. 10.1007/s10286-004-1003-3.
10. Goldstein D. S., Sharabi Y. (2009). Neurogenic

orthostatic hypotension: a pathophysiological approach. *Circulation* 119, 139–146. 10.1161/Circulation AHA.108.805887.

11. Healey J., Connolly S. J., Morillo C. A. (2004). The management of patients with carotid sinus syndrome: is pacing the answer? *Clin. Auton.* Res. 14Suppl. 1, 80–86. 10.1007/s10286-004-1012-2.
12. Kapoor W. N. (2002). Current evaluation and management of syncope. *Circulation* 106, 1606–1609. 1161/01.CIR.0000031168.96232.BA.
13. Lewis D. A., Dhala A. (1999). Syncope in pediatric patient. *Pediatr. Clin. North Am*. 46, 205–219. 10.1016/S0031-3955(05)70113-9.
14. Lewis T. (1932). A lecture on vasovagal syncope and the carotid sinus mechanism. *Br. Med. J.* 873–876. 10.1136/bmj.1.3723.873.
15. Lipsitz L. A., Wei J. Y., Rowe J. W. (1985). Syncope in an elderly institutionalized population: incidence, prevalence and associated risk. *Q. J. Med*. 55, 45–54.
16. Luciano G. L., Brennan M. J., Rothbberg M. B. (2010). Postprandial hypotension. *Am. J. Med*. 123, e1–e6. 10.1016/j.amjmed.2009.06.026.
17. Medow M. S., Stewart J. M., Sanyal S., Mumtaz A., Sica D., Frishman W. H. (2008). Pathophysiology, diagnosis and treatment of orthostatic hypotension and vasovagal syncope. *Cardiol. Rev.* 16, 4–20. 10.1097/CRD.0b013e31815c8032.
18. Moya A., Sutton R., Ammirati F., Blanc J. J., Brignole M., Dahm J. B., *et al*.. (2009). Guidelines for the diagnosis and management of syncope. *Eur. Heart J.* 30, 2631–2671. 10.1093/eurheartj/ehp298.
19. Numerosos F., Mossini G., Lippi G., Cervellin G. (2013). Evaluation of the current progno-stic role of cardiogenic syncope. *Intern. Emerg. Med*. 8, 69–73. 10.1007/s11739-012-0889-3.
20. Osiro S., Zurada A., Gielecki J., Shoja M. M., Tubbs R. S., Loukas M. (2012). A review of subclavian steal syndrome with clinical correlation. *Med. Sci. Monit.* 18, RA57–RA63. 10.12659/MSM.882721.
21. Potter B. J., Pinto D. S. (2014). Subclavian steal syndrome. *Circulation* 129, 2320–2323. 10.1161/Circulation AHA.113.006653
22. Raj S. R., Coffin S. T. (2013). Medical therapy and physical maneuvers in the treatment of the vasovagal syncope and orthostatic hypotension. *Prog. Cardiovasc. Dis.* 55, 425–433. 10.1016/j.pcad.2012.11.004.
23. Rosanio S., Schwarz E. R., Ware D. L., Vitarelli A. (2013). Syncope in adults: systematic review and proposal of a diagnostic and therapeutic algorithm. *Int. J. Cardiol.* 162, 149–157. 10.1016/j.ijcard.2011.11.021.

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Case Report

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An Unusual Cause of Liver Abscess

Viswanath Reddy Donapati[1], TLVD Prasad Babu[2]

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Abstract

Introduction: Liver abscess is an infectious space occupying lesion in liver parenchyma. It could be pyogenic or amoebic in origin. The most common source is biliary followed by abdominal infection and hematogenous spread. We describe a patient with liver abscess caused by a fish bone which penetrated into liver capsule through the gastric wall.

Methods: A 65 year old male presented with history of fever and mild abdominal discomfort. He was evaluated and was found to have a liver lesion on ultrasonography. Triphasic CECT scan abdomen revealed a liver abscess in segment 4 with hyper dense linear material within. Ultrasound had missed out foreign body within the abscess. On probing, there was history of fish bone ingestion a month earlier. Endoscopy did not reveal any gastric lesion or breach in mucosa. He was given antibiotics and taken up for surgery. Laparoscopic liver abscess drainage was done and foreign body- fish bone was noted within the abscess. Patient improved clinically and was doing well on follow up.

Conclusion: Liver abscess due to fish bone penetrating liver capsule through stomach is very rare. The transgastric penetration of foreign body should be kept in mind whenever there is unusual cause of liver abscess with foreign body within. CECT abdomen may be more helpful than an ultrasound abdomen.

Keywords: Liver abscess; Fish bone; Transgastric penetration; Triphasic CECT abdomen; Laparoscopic drainage.

INTRODUCTION

Liver abscess is infectious space occupying lesion in liver parenchyma. It could be Pyogenic or Amebic origin. The most common source is biliary followed by abdominal infection and hematogenous spread. We describe a patient with liver abscess caused by a fish bone which penetrated into liver capsule through gastric wall.

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CASE DETAILS

65 year old male presented with history of fever and mild abdominal discomfort. He was evaluated and was found to have a hypoechoic liver lesion on ultrasonography. Triphasic CECT abdomen revealed a liver abscess in segment 4 with hyperdense linear material within. On probing, there was history of intake of fish bone a month earlier. Endoscopy did not reveal any gastric lesion or breach in mucosa.

He was given antibiotics and taken up for surgery. Laparoscopic Liver abscess drainage and a foreign body -3.5 cm fish bone was noted within the abscess, which was removed. Patient improved clinically and was doing fine on follow up.

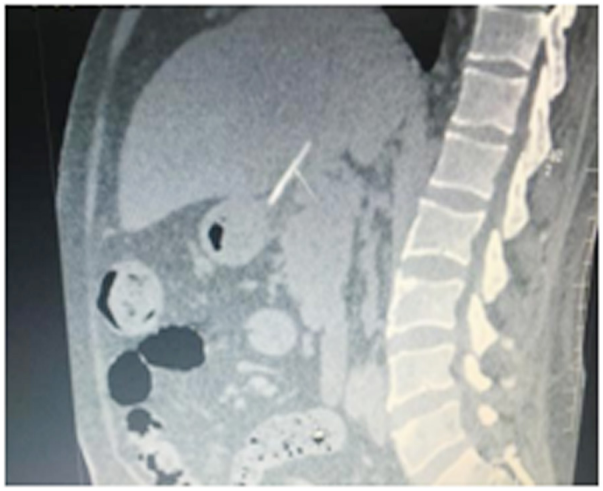

Fig. 1: Linear density in Liver

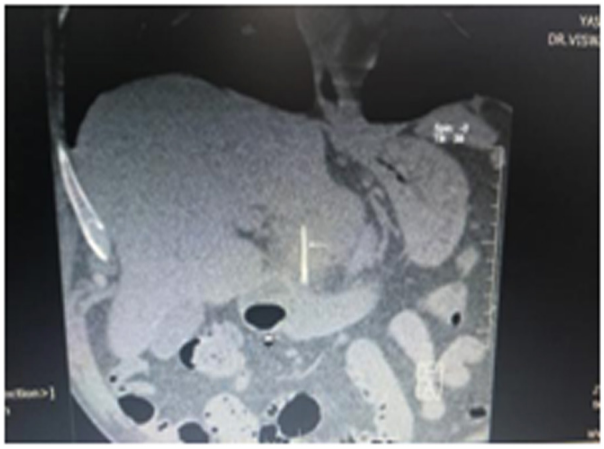

Fig. 2: Linear density in Liver

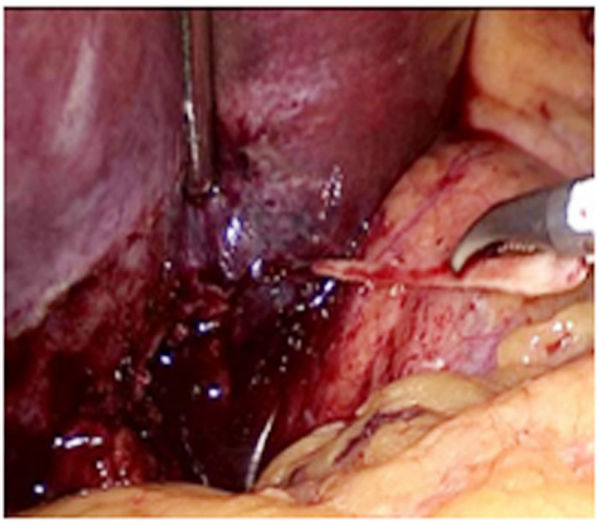

Fig. 3: Laparoscopic removal

Fig. 4: Fish bone

DISCUSSION

Liver abscess is the most common visceral abscess which is actually an infectious space occupying lesion in liver parenchyma.[1] It could be Pyogenic or Amebic origin. The most common source is biliary followed by abdominal infection and hematogenous spread from bacteremia or infective endocarditis. In tropical countries, Amebic liver abscess is the more common variety found. Some rare causes of Liver abscess include Melioidosis, Tuberculosis, penetrating trauma and surgery related. Risk factors include diabetes mellitus, underlying hepatobiliary like gall stone disease, pancreatic disease, liver transplant, and regular use of proton pump inhibitors. Immunocompromised patients like HIV, Chronic Granulomatous Disease are also prone to develop Liver abscess.[2,3,7-9] East Asians may develop Klebsiella pneumonia related primary invasive liver abscesses. There is another unique feature about liver abscesses caused by K. Pneumoniae which appear to have a stronger association with colorectal cancer.[10,11] Most pyogenic liver abscesses are polymicrobial; mixed enteric facultative and anaerobic species are the most common pathogens. Anaerobes are probably under reported.[2]

Our case was unique in terms of the cause of Liver abscess was fish bone which penetrated gastric wall and migrated into Liver and caused it.[12, 21-25]

The clinical presentation of liver abscess is similar in all types Fever, pain abdomen and hepatomegaly with or without jaundice. Nausea, anorexia, malaise may be associated.[2,14] Abdominal tenderness in right upper quadrant, hepatomegaly, intercostal tenderness, or jaundice may be noted. Presentation can be with septic shock or peritonitis if there occurs a free rupture of abscess. Leukocytosis and Liver function test abnormalities may be noted. Imaging will clinch the diagnosis.[15]

CT abdomen is more sensitive than ultrasound abdomen in diagnosing liver abscess.[16-18] The

mainstay of treatment is Antibiotics combined with drainage of abscess. Oral or parenteral antibiotics for 4-6 weeks is recommended.[2,3,13] Traditionally, percutaneous drainage of liver abscess is done in cases with features of impending rupture or left lobe abscess or not improving clinically with conservative management for 72 hours.[19] If complicated course like ruptured abscess, then surgical management is indicated. There are less than 53 case reports of fish bone related Liver abscesses reported in literature.[12,21-25]

Our case was given antibiotics and later underwent Laparoscopy, drainage of the abscess and removal of the fish bone. Patient recovered well and had a good outcome. Proper imaging guided us in diagnosing the condition. Ultrasound had missed out on the foreign body inside the abscess which was clearly visualised on the CT scan.

CONCLUSION

Liver abscess due to fish bone penetrating liver capsule through stomach is very rare. The pathophysiology should be kept in mind and proper contrast enhanced CT scan of abdomen needs to be done to look for foreign body in abscess, whenever there is no obvious predisposing factor or unsatisfactory response to treatment.

REFERENCES

1. Altemeier WA, Culbertson WR, Fullen WD, Shook CD. Intra-abdominal abscesses. Am J Surg 1973; 125:70.
2. Huang CJ, Pitt HA, Lipsett PA, *et al.* Pyogenic hepatic abscess. Changing trends over 42 years. Ann Surg 1996; 223:600.
3. Mohsen AH, Green ST, Read RC, McKendrick MW. Liver abscess in adults: ten years experience in a UK centre. QJM 2002; 95:797.
4. Kaplan GG, Gregson DB, Laupland KB. Population-based study of the epidemiology of and the risk factors for pyogenic liver abscess. Clin Gastroenterol Hepatol 2004; 2:1032.
5. Tsai FC, Huang YT, Chang LY, Wang JT. Pyogenic liver abscess as endemic disease, Taiwan. Emerg Infect Dis 2008; 14:1592.
6. Tian LT, Yao K, Zhang XY, *et al.* Liver abscesses in adult patients with and without diabetes mellitus: an analysis of the clinical characteristics, features of the causative pathogens, outcomes and predictors of fatality: a report based on a large population, retrospective study in China. Clin Microbiol Infect 2012; 18:E314.
7. Chan KS, Chen CM, Cheng KC, *et al.* Pyogenic liver abscess: a retrospective analysis of 107 patients during a 3-year period. Jpn J Infect Dis 2005; 58:366.
8. Thomsen RW, Jepsen P, Sørensen HT. Diabetes mellitus and pyogenic liver abscess: risk and prognosis. Clin Infect Dis 2007; 44:1194.
9. Lin HF, Liao KF, Chang CM, *et al.* Correlation between proton pump inhibitors and risk of pyogenic liver abscess. Eur J Clin Pharmacol 2017; 73:1019.
10. Kao WY, Hwang CY, Chang YT, *et al.* Cancer risk in patients with pyogenic liver abscess: a nationwide cohort study. Aliment Pharmacol Ther 2012; 36:467.
11. Prevalence of colorectal cancer in cryptogenic pyogenic liver abscess patients. Do they need screening colonoscopy? A systematic review and meta-analysis.; Mohan BP, Meyyur Aravamudan V, Khan SR, Chandan S, Ponnada S, Asokkumar R, Navaneethan U, Adler DG; Dig Liver Dis. 2019; 51(12):1641. Epub 2019 Oct 8.
12. Liver abscess caused by ingestion of fishbone: A case report; Jiangfa Li, MM, Daokang Zhao, MM, Liping Lei, MM, Longmiao Zhang, BD, Yaqun Yu, MM and Qian Chen, MM; Medicine (Baltimore). 2019 Aug; 98(34): e16835;2019 Aug 23. doi: 10.1097/MD.0000000000016835.
13. Hepatic abscess: changes in clinical, bacteriologic and therapeutic aspects. Rubin RH, Swartz MN, Malt R; Am J Med. 1974;57(4):601.
14. Pyogenic liver abscess: recent trends in etiology and mortality. Rahimian J, Wilson T, Oram V, Holzman; Clin Infect Dis. 2004;39(11):1654.
15. Zaleznik, DF, Kasper, DL. Intra-abdominal abscesses. In: Gastrointestinal Infections: Diagnosis and Management, Lamont, JT (Ed), Marcel Dekker, New York 1997. p.397.
16. Halvorsen RA, Korobkin M, Foster WL, *et al.* The variable CT appearance of hepatic abscesses. AJR Am J Roentgenol 1984; 142:941.
17. Lin AC, Yeh DY, Hsu YH, *et al.* Diagnosis of pyogenic liver abscess by abdominal ultrasonography in the emergency department. Emerg Med J 2009; 26:273.
18. Multimodality Imaging of Liver Infections: Differential Diagnosis and Potential Pitfalls. Bächler P, Baladron MJ, Menias C, Beddings I, Loch R, Zalaquett E, Vargas M, Connolly S, Bhalla S, HueteÁ; Radiographics. 2016;36(4):1001. Epub 2016 May 27.
19. Prospective randomized comparative study of percutaneous catheter drainage and percutaneous needle aspiration in the treatment of liver abscess. Ahmed M, Alam J, Hussain S, Aslam M; ANZ J Surg. 2021;91(3):E86. Epub 2020 Nov 26.
20. Efficacy of laparoscopic surgery in the treatment of hepatic abscess: A systematic review and meta-analysis. Ndong A, Tendeng JN, Diallo AC, Dieye A, Diao ML, Diallo S, Diop S, Diallo MK, Diedhiou M, Fall ML, Ma Nyemb PM, KonatéI: Ann Med

Surg (Lond). 2022;75:103308. Epub 2022 Jan 31.

21. Large hepatic abscess caused by fish bone; Sandeep H. Venkatesh, and Sarat K. Sanamandra, Saudi Med J. 2015 Jul; 36(7): 878–879. doi: 10.15537/smj.2015.7.11779.
22. Bekki, T., Fujikuni, N., Tanabe, K. *et al.* Liver abscess caused by fish bone perforation of stomach wall treated by laparoscopic surgery: a case report. *surg case rep* 5, 79 (2019). https://doi.org/10.1186/s40792-019-0639-0.
23. Niamh Grayson and others, Liver abscess secondary to fishbone ingestion: case report and review of the literature, *Journal of Surgical Case Reports*, Volume 2022, Issue 2, February 2022, rjac026.
24. Fish bone migration: an unusual cause of liver abscess; *BMJ Case Rep*. 2012; 2012:bcr0920114838; Masoodi, Alsayari. Al Mohaimeed; K Ahmad *et al.*
25. Fatal hepatic abscess caused by a fish bone; Theodoropoulou A, Roussomoustakaki M, Michalodimitrakis MN *et al*, *Lancet*.2002; 359:977.

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Short Communication

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Need of Understanding: AVH takes more than a 45 Days

Satender Tanwar[1], Mayank Chugh[2]

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Abstract

Viral hepatitis, caused by hepatitis viruses A through E, still remains a major public health problem in India. AVH being most commonly encountered disease and the times it get takes for the recovery is quite questionable. The patient or parents of the child usually changes the doctors as and when there is change in the laboratory parameters. The phase of the hepatitis is divided in to the three phase where the early phase, mid phase and recovery phase. The early phase where the symptomatically patient has the high raise in the LFT parameter such as the SGOT and SGPT. The second phase where the transaminase starts settling down and the bilirubin starts increasing and transaminase starts settling down and later phase where the Bilirubin stay high and starts falling down and transaminase touches he baseline, overall procedure takes the 30-45 days for recovery in the patients. This study has been made to understand the pathophysiology of the acute viral hepatitis and its recovery takes the quite prolonged. The concept and the different phases of the acute viral hepatitis has been mentioned base on the textual and the clinical experience of the gastroenterologist.

Keywords: Acute phase; AVH, Bilirubin, Jaundice; Vomiting; Pain Abdomen; Recovery phase; Transaminases; Vaccination.

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INTRODUCTION

Viral hepatitis, caused by hepatitis viruses A through E, still remains a major public health problem in India. Hepatic disease have found to burden the society in all age groups.[1] No age group is spare of these ailments varies from acute to chronic and mild to fulminant in Nature. The Child age groups is the most tender one and maximally effected the children at various age groups in the present study the children, effected found to have history of fever with persisting vomiting and pain

abdomen on evaluation found to have the Hepatitis A on laboratory investigation.[2]

Phases of the Acute Hepatitis:

Acute Phase	Middle Phase	Recovery Phase
0-5 Days	7 Days – 21 Days	More Than 21 Days – 45 Days
Transaminase	Bilirubin Starts Increasing and Reaches Peak	Transaminase Settles to Base Line and Peaked Bilirubin Starts Settling Down.
Raises Markedly Reaches Peak	Bilirubin Reaches Maximum Upto 20MG/DL	Tranasminase Comes Below 100 IU/L. and More than 30 Days – 45 Days Bilirubin comes to base line in different cases Varies.

Bilirubin is the product of heme metabolism, especially of hemoglobin resulting from the senescent erythrocytes (80–85%); the remainder fraction comes from inefficient hematopoiesis and other hemo-containing proteins (myoglobin, cytochromes, and peroxidase). The resulting heme, composed of a molecule of protoporphyrin IX and a $Fe2^{+}$ ion, is degraded by the hemo-oxygenase enzyme into a linear molecule of four pyrrolic rings called biliverdin.[3] Free iron ($Fe3^{+}$) and carbon monoxide are also released. Then, biliverdin is converted by the enzyme biliverdin reductase into bilirubin. The major product is the ring-shaped IXα isoform, which is hydrophobic.[4] Bilirubin binding to albumin (Kd ≈ 10−7–10−8 mol/L) prevents isomerization and enables its transportation through the body into the liver.[5]

Albumin bound bilirubin enters the liver through the sinusoids. Organic anion transporting polypeptides (OATP) 1B1 and 1B3, encoded in the solute carrier organic anion (SLCO) gene superfamily, mediate bilirubin uptake into the hepatocyte.[6] Once inside liver cells, bilirubin binds water soluble proteins known as ligandins or Y proteins, which are cytosolic proteins of the glutathione S-transferase family that delay the efflux of internalized bilirubin.[7] Then, in the smooth endoplasmic reticulum, bilirubin is conjugated with glucuronic acid by UDPGT-1A1 to form bilirubin glucuronides.[8] Bilirubin glucuronide returns to cytosol, from which it is transported across the canalicular membrane for excretion into bile, or across the sinusoidal membrane for secretion into plasma, where it undergoes reuptake by the same OATP1B1/3 transporters.[9] In the canalicular membrane, the process is mediated by an ATP-dependent apical transporter, ATP-binding cassette-C2 (ABCC2), formerly known as MRP2–multidrug related protein-2.[10]

Bilirubin is part of the basic study of liver function. There are numerous measurement platforms and methods, being the diazo method the gold standard. The sample most commonly used is serum or plasma, and also urine, for which optimal pre-analytical conditions are required. Despite its limited sensitivity and specificity, bilirubin is frequently measured for the evaluation of different pathologies related to liver and bile function.[11] Total and conjugated bilirubin concentrations provide guidance about the origin of the alteration. The same occurs with bilirubin and urobilinogen determination in serum and urine. In the hospital context, bilirubin concentrations are very useful for prognosis of acute liver disease and monitoring chronic liver disease. These results must be interpreted in the context of patient anamnesis, degree of alteration, and other clinical laboratory parameters.[12]

CONCLUSION

In Viral hepatitis, most of the time self limiting but takes 45 days to recover because it binds with the albumin which has half life of 28 days and reason being once it binds has to process till the albumin get washed of from the body.

REFERENCES

1. Alberts CJ, Boyd A, Bruisten SM, Heijman T, Hogewoning A, Rooijen MV, Siedenburg E, Sonder GJB. Hepatitis A incidence, seroprevalence, and vaccination decision among MSM in Amsterdam, the Netherlands. Vaccine. 2019 May 09;37(21):2849-2856.
2. Johnson KD, Lu X, Zhang D. Adherence to hepatitis A and hepatitis B multi-dose vaccination schedules among adults in the United Kingdom: a retrospective cohort study. BMC Public Health. 2019 Apr 15;19(1):404.
3. Brennan J, Moore K, Sizemore L, Mathieson SA, Wester C, Dunn JR, Schaffner W, Jones TF. Notes

from the Field: Acute Hepatitis A Virus Infection Among Previously Vaccinated Persons with HIV Infection - Tennessee, 2018. MMWR Morb Mortal Wkly Rep. 2019 Apr 12;68(14):328-329.

4. Wilson E, Hofmeister MG, McBee S, Briscoe J, Thomasson E, Olaisen RH, Augustine R, Duncan E, Bamrah Morris S, Haddy L. Notes from the Field: Hepatitis A Outbreak Associated with Drug Use and Homelessness - West Virginia, 2018. MMWR Morb Mortal Wkly Rep. 2019 Apr 12;68(14):330-331.
5. Tan EM, Marcelin JR, Virk A. Pre-travel counseling for immunocompromised travelers: A 12-year single-center retrospective review. Infect Dis Health. 2019 Feb;24(1):13-22.
6. Nelson NP, Link-Gelles R, Hofmeister MG, Romero JR, Moore KL, Ward JW, Schillie SF. Update: Recommendations of the Advisory Committee on Immunization Practices for Use of Hepatitis A Vaccine for Postexposure Prophylaxis and for Preexposure Prophylaxis for International Travel. MMWR Morb Mortal Wkly Rep. 2018 Nov 02;67(43):1216-1220.
7. Gervasi G, Biticchi M, Zaratti L, Franco E. [Epidemics of Hepatitis A and opportunities for vaccination: a focus on the category of men who practice sex with men (MSM)]. IgSanitaPubbl. 2018 May-Jun;74(3):295-304.
8. Waszczuk K, Waszczuk E, Szenborn L. Can we better protect patients with inflammatory bowel disease against infections - patient attitude and personal immunization knowledge. ActaGastroenterol Belg. 2018 Apr-Jun;81(2):257-261.
9. O'Leary ST, Kimberlin DW. Update From the Advisory Committee on Immunization Practices. J Pediatric Infect Dis Soc. 2018 Aug 17;7(3):181-187.
10. Singh V, Crosby RA, Gratzer B, Gorbach PM, Markowitz LE, Meites E. Disclosure of Sexual Behavior Is Significantly Associated With Receiving a Panel of Health Care Services Recommended for Men Who Have Sex With Men. Sex Transm Dis. 2018 Dec;45(12):803-807.
11. Doshani M, Weng M, Moore KL, Romero JR, Nelson NP. Recommendations of the Advisory Committee on Immunization Practices for Use of Hepatitis A Vaccine for Persons Experiencing Homelessness. MMWR Morb Mortal Wkly Rep. 2019 Feb 15;68(6):153-156.
12. Tajammal R, Ali IA, Syed T, Nusrat S. Immunization Against Hepatitis A Virus and Hepatitis B Virus in Patients with Chronic Liver Disease: Are We Doing a Good Job? Cureus. 2018 Apr 24;10(4):e2528.

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[1] Flink H, Tegelberg Å, Thörn M, Lagerlöf F. Effect of oral iron supplementation on unstimulated salivary flow rate: A randomized, double-blind, placebo-controlled trial. J Oral Pathol Med 2006; 35: 540–7.

[2] Twetman S, Axelsson S, Dahlgren H, Holm AK, Källestål C, Lagerlöf F, et al. Caries-preventive effect of fluoride toothpaste: A systematic review. Acta Odontol Scand 2003; 61: 347–55.

Article in supplement or special issue

[3] Fleischer W, Reimer K. Povidone-iodine antisepsis. State of the art. Dermatology 1997; 195 Suppl 2: 3–9.

Corporate (collective) author

[4] American Academy of Periodontology. Sonic and ultrasonic scalers in periodontics. J Periodontol 2000; 71: 1792–801.

Unpublished article

[5] Garoushi S, Lassila LV, Tezvergil A, Vallittu PK. Static and fatigue compression test for particulate filler composite resin with fiber-reinforced composite substructure. Dent Mater 2006.

Personal author(s)

[6] Hosmer D, Lemeshow S. Applied logistic regression, 2nd edn. New York: Wiley-Interscience; 2000.

Chapter in book

[7] Nauntofte B, Tenovuo J, Lagerlöf F. Secretion and composition of saliva. In: Fejerskov O,

Kidd EAM, editors. Dental caries: The disease and its clinical management. Oxford: Blackwell Munksgaard; 2003. pp 7–27.

No author given

[8] World Health Organization. Oral health surveys - basic methods, 4th edn. Geneva: World Health Organization; 1997.

Reference from electronic media

[9] National Statistics Online—Trends in suicide by method in England and Wales, 1979–2001. www.statistics.gov.uk/downloads/theme_health/HSQ20.pdf (accessed Jan 24, 2005): 7–18. Only verified references against the original documents should be cited. Authors are responsible for the accuracy and completeness of their references and for correct text citation. The number of reference should be kept limited to 20 in case of major communications and 10 for short communications.

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