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Abdominal Elephantiasis: An Obstructive Disease Due to Extreme Obesity

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Abstract

This study deals with abdominal elephantiasis disease due to extensive lymph node destruction by erysipelas. The disease is rare, and only seen in developed countries among unfortunate morbid obese (e.g., BMI is in the range 60 to 80 or above) individuals. Abdominal elephantiasis is viewed as by chronic inflammation and obstruction of the lymphatic channels, and by hypertrophy of the skin and subcutaneous tissues. This mini review tries to make conscious about the negative effects of extreme obesity.

Keywords: Abdominal elephantiasis, lymphedema, lymph fluid

1. Introduction

Obesity or morbid obesity is a consequence of many chronic diseases, and obesity is defined as an individual having a BMI of 30 and above; and morbid obesity indicates a BMI of 40 and above (WHO, 2020; Mohajan & Mohajan, 2023). The word “elephantiasis” comes from elephant-like appearance, and is used for indicating the enlargement of the various limbs of the body, such as abdomen, legs, arms, etc. Elephantiasis is formed from chronic lymphedema, and is characterized by gross enlargement of the various organs of the body (Sethi & Sethi, 2014). Abdominal elephantiasis is a rare and uncommon disease. It is deformative and progressive cutaneous disease that is caused by chronic lymphedema and recurrent streptococcal or Staphylococcus infections of the abdominal wall (Kohli et al., 2013). The abdominal wall of elephantiasis is usually swelling, thickening, erythema, and have a severe pain (Yosipovitch et al., 2007).

2. Literature Review

The literature review section is an introductory unit of research, which exhibits the works of previous researchers in the same field within the existing knowledge (Polit & Hungler, 2013). Ritesh Kohli and his coauthors have discussed abdominal elephantiasis, which is deformative and progressive cutaneous disease caused by chronic lymphedema and recurrent streptococcal or Staphylococcus infections of the abdominal wall. They stress on early diagnosis that is important for the treatment and prevention of abdominal elephantiasis (Kohli et al., 2013).

Yan-Ping Yang and her coworkers have investigated a 31-year-old man presented with progressively increasing bilateral lower limb and abdominal swelling (Yang,

2018). Dominique Hanna and her coauthors have presented the case of a 51-year-old woman who had progressively developed an enormous pediculated abdominal mass hanging down her knees, who had a history of multiple abdominal cellulites (Hanna et al., 2004).

Meshal Mohammad Alhameedy has studied a 58-year-old woman with morbid obesity (BMI >50), a large distended abdomen with lichenified skin changes containing multiple verrucous papules and nodules with cobblestone-like appearance and hyperpigmentation (Alhameedy, 2020). Andrzej Szuba and Stanley G. Rockson present the diagnostic features, the pathophysiology and the available therapies for lymphedema (Szuba & Rockson, 1998). Haradhan Kumar Mohajan and Devajit Mohajan have discussed the obesity and its related diseases in some series of papers (Mohajan & Mohajan, 2023)

3. Research Methodology

Research is the procedures of systematic investigations that requires collection, interpretation and refinement of data, and ultimately prepares an acceptable article, working paper, book chapter or a thesis by the appropriate use of human knowledge (Pandey & Pandey, 2015). Methodology is a guideline for the accomplishment of a good research (Kothari, 2008). Therefore, research methodology is the specific procedures that are used to identify, select, process, and analyze materials related to the topics (Somekh & Lewin, 2005).

In this mini review article we start our research analysis with lymphedema system and its function symptoms, and then we have tried to discuss treatment of abdominal elephantiasis in briefly. To prepare this article we have dependent on

the secondary data sources (Islam et al., 2009, 2010, 2011). We have used books of famous authors, handbooks, and theses. We have also collected valuable information from websites and internets to enrich the paper (Mohajan & Mohajan, 2023a-e; Mohajan, 2013a,b,c, 2017a,b, 2022a,b Mohajan et al., 2013).

4. Objective of the Study

The core objective of this study is to discuss the aspects of abdominal elephantiasis and its various negative effects. Other trivial objectives of this study are as follows:

- to highlight on lymphedema system, and
- to focus on symptoms and treatment of abdominal elephantiasis

5. Lymphedema System and Its Function

Lymphedema is an accumulation of lymph fluid, rich in protein that arises as a consequence of impaired lymphatic drainage (Judge & Kilic, 2016). The lymph fluid stores within the soft fatty tissues of the body, such as in abdomen, legs, arms, etc. and causes an abnormal swelling in that tissues areas, and later make them elephantiasis (Szuba & Rockson, 1998). It can lead to irreversible skin changes, frequent infections, reduced mobility of the affected limb and diminished quality of life. It is a network of vessels and nodes that collect and carry extra fluid, wastes, and proteins from the tissues of the body due to a failure of the lymphatic system (Armer et al., 2020). It causes physical and psychological difficulties for the patient and a complex therapeutic challenge for the physician (Greenlee et al., 1993).

6. Symptoms and Treatment of Abdominal Elephantiasis

Abdominal elephantiasis patients may be extreme obese. For example, Yan-Ping Yang and her team investigate an abdominal elephantiasis patient weighing about 244 kg, with a body mass index (BMI) of 75.3 (Yang et al., 2018). The patient possesses abdominal swelling, with a chronic disseminated dermatosis of the skin, characterized by edema, hyperpigmentation, hyperkeratosis, and elephantiasis nostras verrucosa (Chintamani et al., 2010).

Treatments of abdominal elephantiasis are use of elastic bandages, pneumatic stockings, mechanical massage, oral retinoids, and ultimately surgery. Antibiotics can be used to treat cellulitis, topical keratolytics, mechanical massages, oral retinoid, and topical benzopyrones (Casley-Smith, 1999). Surgical treatments of abdominal elephantiasis are partial lipectomy, debridement of the lesions, and lymphovenous or lymphatic anastomosis (Hanna et al., 2004).

7. Conclusions

In this study we have presented fatality of abdominal elephantiasis in brief. We have observed that massive and chronic lymphoedema in obese patients can develop abdominal elephantiasis. Abdominal elephantiasis patients are burden to the family, society and country; moreover the disability of these patients affects the society economically. All the people will be conscious about the extreme obesity, and addressed it to others in a frankly and supportive way. Early diagnosis is important for the treatment of abdominal elephantiasis and prevention of complications of this fatal disease. Physicians should be aware of the great risk and complications of abdominal elephantiasis.

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