Introduction

Obesity is a worldwide epidemic that is on the increase. In our adult unit we have observed an increase in the numbers of patients presenting with burn injuries who are obese. This is a co-morbidity which is visible across all age ranges, genders and socio-economic groups. The World Health Organisation (WHO) have published data (2012) which reports that 1 in every 10 adults have a diagnosis of obesity, a chronic disorder due to excess fat in the body. Any person with a BMI of greater than 30 is classified as obese (WHO, 2012).

Background

There are research papers published focusing on obesity and the impact of the poor nutrition on wound healing time frames and increased lengths of stay. However, many of these papers are written for and by dietitians. Many of the research articles have been conducted within a paediatric population therefore it is difficult to extrapolate the findings to the adult populations. At the time of collation of this poster a paper was published in the 2012 Journal of Burn Care and Research on the topic of burn injuries and obesity. The authors of the paper considered the epidemiological and physiological aspects of obesity in the burn population.

Aims

- To explore the issues of obesity within the burn adult population
- To present solutions for the management of obesity in the population
- To provide a perspective for burn management strategies for the obese patient

Features of Obesity

The most obvious feature of obesity is the anatomical aspect. Physically these patients are larger than “average”. Secondly the physiological aspects of obesity can not be ignored. These characteristics are both haemodynamically and psychologically challenging.

Physical Features

An important factor to consider when healing an obese burn patient is the biomechanical aspect for both the patient and the staff. An obese patient is larger therefore when manual handling more staff are required to efficiently and safely manoeuvre the patient. Depending on the location of the burn on the body and size of the burn injury, manual handling may be indicated over a longer period of time. With a substantial increase in weight this load may need to be spread over a larger area. i.e. using more staff and more frequent rest breaks may be necessary for the people manual handling the patient. Manual handling policies and procedures for dealing with obese patients need to be current and up to date, this will also minimise the risk of injury to both the patient and the worker.

These issues direct the focus to the type of equipment utilised to safely manoeuvre the obese patient. This process starts from the time of injury right through to discharge from ambulatory care. For example, transportation options such as the use of bariatric ambulances, bariatric beds and bariatric wheelchairs, in the operating theatre over head beds may require and in rehabilitation remote control mobility outfits may be indicated. All of these adaptive apparatus increase the risk of pressure areas when utilised over prolonged periods of time.

Physiological Features

Haematomally an obese patient has a higher risk factor for thrombosis. If surgical input is required there are higher risks associated with the use of anaesthetic. The oxygen requirements are higher for an obese patient. This has potential to lead to a delay in time to theatre while awaiting cardiology and anaesthetic assessment. There is more pressure on the burn surgeon to complete a longer surgery to decrease risk of a return to theatre. In a burn injury thrombosis can lead to complications with wound healing and graft take. An obese burn patient is more likely to have poor graft take and a slower rate of wound healing. In turn leading to a longer inpatient hospital admission and a longer attendance at the ambulatory care clinic. There is a higher incidence of vascular complications in this patient cohort. This impinges on the wound healing times and outcomes. Obesity is associated with heart disease, hypertension, diabetes and sleep apnoea. Pre injury this patient group are more likely to have poor mobility and a lower activity tolerance, thus increasing the thrombosis risk further. The limited respiratory function of burn patients cannot be ignored, this impacts all phases of the burn recovery process. Due to the increased body mass, the human body is under increased pressure to metabolise and excrete medications. Higher dosages and frequency of pain medications are indicated. The increased challenges for the burn team, dietitians, endocrinologists, as it requires closer observation and monitoring of body functions for example, BSL, lipids, WBC.

Psychological Features

The psychological trauma associated with burn injuries is well documented. In an obese patient there is no difference, however slow progress and increased length of stay can have a significant impact on this psychological well being. In turn this can lead to decreased willingness to participate in their rehabilitation programme, thus in turn increasing risks associated with their activity tolerance. It is important not to neglect this factor as decreased patient compliance is associated with poor long term outcomes.

Limitations

The limitations of our poster is we were unable to attain the exact numbers of burn patients presenting to our facility with a co-morbidity of obesity. This is attributed to the information not being recorded on the data sheet which is entered in to the NSW data registry. Therefore the numbers noted are anecdotal and based solely on our observations rather than true data.

Conclusion

In this poster presentation we were unable to achieve our objectives due to lack of detailed recorded data from our unit.

Future Studies

There is a limited number of studies on the functional outcomes of obese patients post burn injury. Due to the overwhelming co-morbidities associated with obesity further studies are necessary to ensure obese patients return to full functional capacity and lead healthier lifestyles. We need to consider how we deliver this education and enable our patients to make this change to their lives.

References


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