Burns in the morbidly obese: changes and challenges

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Introduction

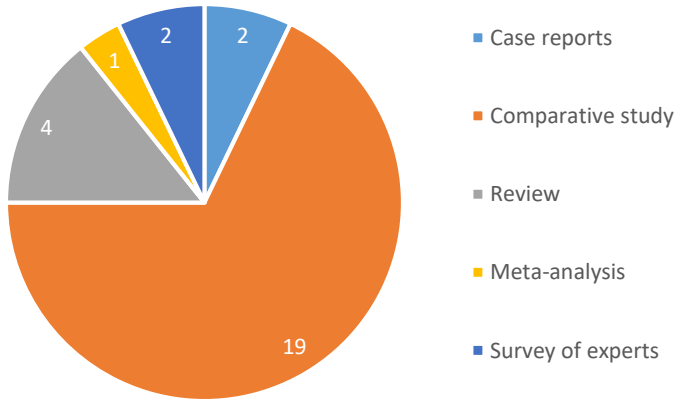
- Management of burns in the morbidly obese is complex and increasingly relevant as prevalence of obesity increases
- All stages of burns care are affected, from retrieval and resuscitation through to rehabilitation
- Several recent admissions of morbidly obese patients to our service prompted us to examine the literature

Literature review

- MEDLINE search for publications that described burns in the morbidly obese
- Search terms were *"(obesity [MeSH Terms]) AND burns [MeSH Terms])"*
- **61** publications were identified
- After abstract review **28** relevant articles were reviewed

Key findings

- Increased length of stay[1,2]
- Increased mortality[1]
  - however some evidence for protective effect of mild obesity[3,4]
- Palmar surface area underestimates %TBSA[5]
- Lund-Browder charts and Rule of Nines are unsuitable in this population[6]



Case 1

- 42y F; 140kg; BMI 53; 14% flame burn to back & thighs, managed conservatively
- Developed refeeding syndrome due to deficient trace vitamins/minerals requiring ICU and sepsis from burn wounds
- Large skin folds made dressings difficult
- Challenging rehabilitation due to reduced mobility and pre-existing cardiac disease

Case 2

- 50y M; 180kg; BMI 47; 15% flame burn to abdomen & thighs, managed conservatively
- Required RFDS transfer from rural WA to Perth
- Exceeded weight limit for standard RFDS plane, requiring mobilisation of jet aircraft, and resulting in significant transfer and management delays

Challenges

- Rural retrieval
- %TBSA estimation
- Anaesthetic risks
- Comorbidities
- Poor nutrition & healing
- Application of dressings
- Nutritional requirements
- Nursing demands
- Equipment limitations
- Thromboprophylaxis

Discussion

- Obesity creates significant clinical and technical issues in management of burns patients
- With the rising BMI of the population it is essential that burns teams are aware of and prepared for these challenges

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