Sacral osteomyelitis management; making the case for a weekly MDT

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Introduction

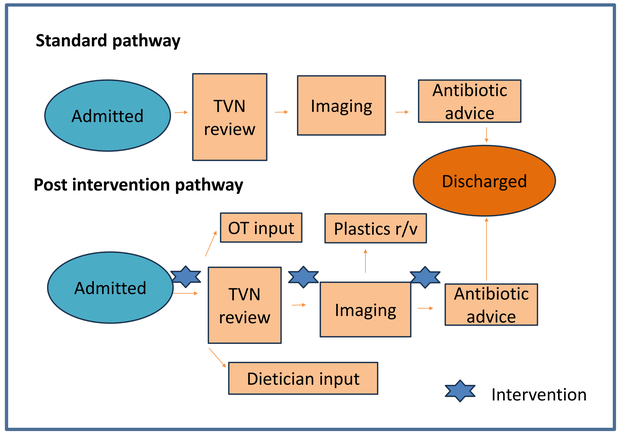
Grade 4 pressure injuries represent full thickness loss down to exposed bone, muscle, or tendon. These typically develop on the sacrum in complex patients. Risk factors include reduced sensation and mobility, poor nutrition, and reduced consciousness. Evidence on management is limited however an MDT approach is key with surgical intervention a consideration in suitable patients. Significant mortality and morbidity is associated grade 4 sacral pressure injuries.

We evaluated the management of patients in our trust and developed an MDT. Our trust is a tertiary centre with around 1000 adult beds. A senior nurse from Tissue viability and an Infection specialist met weekly. Patients discussed then underwent an infection review. Where appropriate, we then arranged plastic surgery review, dietician review, and occupational health input. Six weeks in we evaluated the impact. Veraflo™ vac therapy was also implemented in appropriate patients. This is an irrigating negative pressure dressing. A proforma was designed to assist the MDT documentation in the notes.

Methods

Data was collected using the electronic patient record on all inpatients with a grade 4 pressure injure admitted over a 3 month period at the end of 2023. Prospective data on MDT outcomes, length of stay, imaging and antibiotic use was then collected once the MDT was established.

Figure 1 : Process maps



Results

Baseline data showed that over a 3 month period 16 patients were admitted with a grade 4 pressure injury. 14/16 (87.5%) were sacral in origin. Of these sacral osteomyelitis patients 12/14 (85.7%) received antibiotics, duration varied from 5 days to 56 days. 4/14 (28.6%) died. 3 of the patients who died the sacral osteomyelitis was directly related to the their death. The forth died as an outpatient.

In the first 3 months of 2024 13 patients were managed with a grade 4 sacral injury. 2 patients died as a result of their pressure injury.

Figure 2 Patient journey

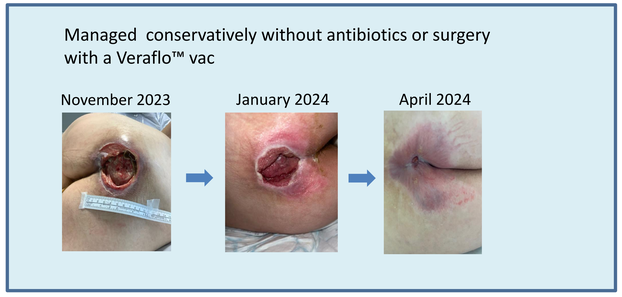
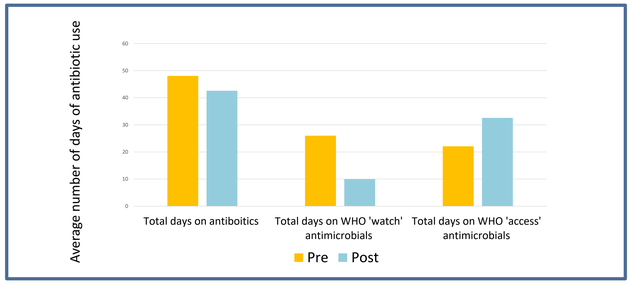


Figure 3 : MDT double sided proforma used

Results

Figure 4 Antibiotic stewardship



The median length of stay reduced from 29 days to 21 days. In the pre-intervention group 1 pressure injury healed, in the post-intervention 2 healed. 92% patients had dietician review compared to 46 % pre-intervention. Average duration of antibiotic therapy reduced from 44.5 days to 36 days. Use of WHO Watch list broad spectrum antibiotics reduced by 62%. 69% of patients in both cohorts underwent an MRI.

Discussion

These results highlight the complexity and significant mortality associated with grade 4 sacral pressure injuries. It is difficult to draw conclusions from a small cohort however we have shown an improvement in length of stay, mortality and stewardship. A holistic review is important to understand the underlying issues and goals of antimicrobial therapy. More research into the management of this complex group is urgently required.

We had hoped to reduce the number of MRI requests in patients not suitable for operative management with confirmed osteomyelitis. While we did not achieve this more work is underlying to educate teams on the indication for imaging and diagnostic stewardship.

With the development of hospital at home and virtual wards, we have ambition to manage patients at home in future and to expand the MDT out into the community. This will enable vac therapy where appropriate, antibiotics and monitoring to be delivered out of the hospital setting. Given the average length of stay this offers a significant opportunity.

References
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