

[OP162] COMPARISON OF NEGATIVE PRESSURE WOUND THERAPY, SILVER COATED FOAM DRESSINGS AND CONVENTIONAL BANDAGES FOR OPEN WOUND MANAGEMENT IN THE DOG

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Free Paper Session: Negative Pressure Wound Therapy 2

Aim: The aim of this study was to evaluate negative pressure wound therapy (NPWT) for treatment of complicated wounds in dogs and to compare it to standard wound therapy.

Method: Dogs (n=50) undergoing open wound treatment in two veterinary centers were classed according to treatment method: bandage (Group A, n= 7), NPWT (Group B, n=18), and foam dressing (Group C, n=25). Pairs of patients matched based on wound conformation, localization and underlying cause were compared between Group A and C (n=7 each) and between groups B and C (n=18 each) in terms of duration of previous treatment, time to closure and complications.

Results / Discussion: Signalment, antibiotic and antiseptic treatment and bacterial status were comparable between groups. The duration of previous treatment was significantly higher in patients assigned to Group B (p=0.04) compared to Group C, while no statistically significant difference was found between groups A and B. Total time to wound closure was significantly shorter in Group C compared to Group A (p=0.02) and in Group B compared to Group C (p = 0.003). NPWT treated wounds suffered significantly less complications (p=0.008) and were significantly less septic during treatment (p=0.016) than wounds treated with a foam dressing.

Conclusion: This study shows that time to healing was halved in NPWT treated animals compared to foam dressing treated patients, which in turn healed faster than patients treated with conventional bandage, underlining the value of NPWT therapy for the treatment of complicated wounds.

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[OP163] DANGERS AND ERRORS IN COMPLEX TREATMENT OF PURULENT CHEST WOUNDS AFTER STERNOTOMY.

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Free Paper Session: Negative Pressure Wound Therapy 2

Aim: The improvement of outcomes of treatment of patients with infectious complications after sternotomy.

Method: In the period from 2008 to 2015 in the department of thoracic surgery were treated 145 patients after sternotomy. Deep sternal wound infection was 79 patients. Superficial sternal wound infection was 66 patients. We compared two groups of patients. The first group (27 patients) included patients in the period from 2008 to 2011. There was no mortality. The second group included 118 patients in the period from 2012 to 2015. The fifteen patients died (10,3%).

Results / Discussion: We have identified the following reasons for our mistakes and complications: a) an increase in the severity of the general condition of patients, b) resternotomy in cardiac surgery department regarding early postoperative complications, c) untimely the provision of specialized thoracic assistance for infectious complications d) difficulties relief of infection due to MDR bacteria e) lack of vacuum therapy in treatment f) failure to comply with the principles of preparedness wound to the plastic closure.

Conclusion: Treatment of patients with infectious complications after sternotomy should be concentrated in specialized departments. The best way to prepare purulent wound to the sternum and mediastinal plastic surgery is vacuum therapy. Must be strictly observed the principles of ready purulent wound to the plastic closure.

[OP164] EFFICIENCY AND EFFECTIVENESS OF TWO DIFFERENT TOPICAL NEGATIVE PRESSURE DEVICES

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Free Paper Session: Negative Pressure Wound Therapy 2

Aim: The aim of this study was to evaluate the efficiency and effectiveness of two different topical negative pressure devices. In the scientific literature, a number of mechanisms of action associated with NPWT are identified. Secondary effects of NPWT are reduction of microbial bioburden. Thus the question of comparability between different devices and settings is not answered clearly.

Method: In the period between January 2008 and December 2012 we observed 70 patients with infected wounds in different locations and indications, who were treated using different NPWT system by a different provider. Data collection was following these defined endpoints (wound closure time, days in hospital careday using NPWT, number of dressing changes). Standard descriptive statistics were applied in the analysis for continuous variables.

Results / Discussion: The length of application and treatment regimes of both types of NPWT units – VAC and Vivano – was identical and the results were not statistically significant. One of the most discussed facts in NPWT using different devices and application systems is the comparability between results attained by using such different systems. Our study compared the results of negative pressure wound therapy using the VAC system and GranuFoam[®] with the Vivano system and Vivano Med Foam. In all cases the NPWT foams support the creation of new cells and renewal of granulation tissue in the wound.

Conclusion: Our study analysed differences in the effectiveness of NPWT systems provided by two different companies. Our results for the treatment of infected wounds by NPWT systems developed by two companies are comparable and there are no statistically significant differences in their effectiveness.

[OP165] NEGATIVE PRESSURE THERAPY IMPROVES QUALITY OF SCAR AND COMPLICATIONS RATE IN MASSIVE WEIGHT LOSS PATIENTS ABDOMINOPLASTY

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Free Paper Session: Negative Pressure Wound Therapy 2

Aim: Abdominoplasties are very common cosmetic procedures. Negative pressure treatment (NPT) is considered to play an important role in the process of wound healing. A comparison study was therefore carried out in order to evaluate the effect of NPT on scar quality.

Method: All post-obese patients consecutively treated for abdominal ptosis and laxity in the period January 2012 to April 2013 were recruited in a prospective cohort study. All patients underwent abdominoplasty, but two different postoperative treatments were administered. In group A, consisting of the most recently treated patients (December 2012-April 2013), NPT was applied on the sutured wound in the immediate postoperative phase for a period of one week. Group B patients were treated with traditional dressings. The quality of scars was evaluated by means of the Stony Brook Scar Evaluation Scale (SBSSES) at 7, 15 and 30 days postoperative.

Results / Discussion: 74 patients were included. Group A consisted of 17 patients, group B included 57 patients. The frequency of wound dehiscence was 18% in group B, 15% in group A. Seroma occurred in 27% of group B patients and 14% of group A. The frequency of haematoma was 12% in group B, 2% in group A.

In the group treated with NPT, the mean SBSSES score was 3.7 at 7 days, 4.8 at 15 days and 4 at 30 days. In the group not treated with NPT the SBSSES score was 3.2 at 7 days, 3 at 15 days and 3.5 at 30 days.

Conclusion: NPT appears to be a useful adjunct to the postoperative wound healing after abdominoplasty in massive weight loss patients.

[OP166] REDUCING SSI AND READMISSIONS IN CAESAREAN SECTION PATIENTS WITH HIGH BMI: A 250 PATIENT EVALUATION

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Free Paper Session: Negative Pressure Wound Therapy 2

Aim: To evaluate the impact of negative pressure wound therapy on patients with a high BMI undergoing caesarean section.

Method: Patients admitted to the trust for Caesarean section who had a BMI greater than or equal to 35 had their wounds treated with a small ultra portable negative pressure device. 250 patients were admitted over a 32 month period. 1700 patients with BMI below 35 were treated with a waterproof, bacteria proof dressing*.

Dressings were changed only when necessary or on day 7. Wounds were checked by community midwives and further follow up by the tissue viability nurse.

An educational initiative was also set up to train staff and increase patient awareness of the problem of SSI.

Results / Discussion: One patient in the negative pressure group (1 of 250) developed a superficial wound infection which is 4%. No patients were readmitted during this evaluation. This figure is significantly less than would be expected in this patient group. Wloch et al (2012) reported an SSI rate of 19.28% in patients with high BMI in a national survey of Caesarean section patients in England. In the larger patient group, 52 of the 1700 patients developed a wound infection, which is 3.05%, again this is lower than the national levels cited by Wloch et al as 9.6%.

Conclusion: Prior to this evaluation on average 3 patients were readmitted per month with wound dehiscence secondary to wound infection, this has a significant impact on the patient and also a cost implication for the trust. Using a post-operative dressing** only 1 patient developed a superficial infection and there were no readmissions during the evaluation period. According to Wloch et al (2012), patients with a high body mass index are at increased risk of developing a wound infection following Caesarean section (19.28%).

This is a patient evaluation and not a randomised trial, however, the authors feel that there is a significant benefit when using NPWT as an incision management therapy. This therapy not only reduces the costs to the service but can also help to avoid unnecessary suffering for patients who have just given birth.

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References

Wloch C et al., (2012) Risk factors for surgical site infection following caesarean section in England: results from a multicentre cohort study. *BJOG* 2012;119:1324–33.