WOUND CARE IN ORTHOPAEDICS

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Background: Orthopaedic surgeons have to deal with both acute and chronic wounds. The most challenges are met in chronic wounds. Wounds in this category include venous ulcers; diabetic foot, neurological ulcers, pressure sores, radiation sores and wounds associated with compound fractures. Acute ulcers are mostly traumatic or surgical. Wounds associated with lymphoedema are usually chronic and very difficult to heal. In under developed countries where medical insurance is not wide spread and record keeping is poor, it is difficult to estimate the cost of wound care. In developed countries some such as the USA have estimated that it costs about USD 25 billion a year to manage (1). In the united kingdom, cost of chronic wound care is estimated at £2.3 – 3.1 billion (kshs.331.2bn) (2). There is a large number of visits to the medical institutions because of wounds. So it makes sense to look at status of wound management in the local environment.

Problems of non-healing wounds

They interfere with Activities of Daily Living (ADL), cause pain and lead to complications which may lead to amputations. The burden to the pocket is heavy to the individual and national healthcare system (1,2). When does a wound warrant special attention and specialized care? Any wound which has stayed for more than four weeks is considered chronic. Certain wounds from the start by their nature require special care and these include traumatic ulcers associated with compound fractures, tumours and radiation wounds.

Elements of wound care

The most important element of wound care is personnel. There are countries now with trained wound specialist doctors and nurses. It has been taken for granted that nurses know how to care for wounds. This could never be further from the truth. The number of times one sees lack of understanding of wound care is amazing. This specialty will not be afforded soon in the poor countries. However, currently it is feasible to have nurses dedicated to wound care associated with doctors relevant to various specialties. In Kenya and particularly in Nairobi this specialised nurse is slowly emerging. The next element is patient and wound assessment. The wound should be carefully assessed with appropriate history in order to plan the management. It is vital that the patient be taken on board as the patients' behaviour and appreciation of what is being done greatly helps in the management. This is particularly so in methods such as vacuum dressing. Other elements include traditional methods which include debridement, skin grafting, flaps, compression dressing and stockings, allografts and vascular surgery. The less traditional ones include hyperbaric oxygen, enzymatic debridement and autolysis. Bioengineering which creates tissue for replacement. There have been other weird traditional but not widely used such as addition of sugar or honey to the wound and culture of maggots in the wound for debridement (3, 4).

Going hand in hand with training personnel is the need to establish wound care protocols which are totally lacking in developing countries.

Negative- pressure wound therapy

This is also known as vacuum dressing, Negative Pressure Wound Therapy (NPWT). It has turned out to be very useful in burn and extensive skin loss management. It is also used in acute and chronic wound management. It has spread then to general surgery especially in laparatomy wounds with extensive sloughing and dehiscence. It has now extended to orthopaedic and orthopaedic trauma surgery. Use of NPWT has been useful in management of chronic ulcers such as the diabetic foot, venous ulcer, atrophic ulcers, chronic osteomyelitis and trauma ulcers. In osteomyelitis one must ensure any sequestra and dead tissues are eliminated.

Road Traffic accidents with compound fractures have been treated with good results. Thorough surgical toilet is done of the wounds, fractures are primarily fixed and vacuum dressing set up and continued until the drainage is negligible. By the end the wound left is usually small and easy to graft or apply special granulation tissue stimulants which encourage wound closure

This method of dressing is superior to conventional suction drainage in that there is no mandatory need for wound closure as the film dressing seals the wound turns it into a closed wound yet allowing it to drain and remain moist. The current area being tried out is with infected arthroplasties. Where a one step revision arthroplasty has been hitherto avoided is now being carried out (5). Thorough debridement is done of the

prosthetic bed, the wound is washed out severally, a new prosthesis is put and NPWT set up. In developing countries the general orthopaedic fraternity should await the results of the preliminary studies before they indulge in this aspect of NPWT. The reason for this cautionary approach is cost. Prosthesis in the developing world is one arthroplastic procedure a major undertaking on the part of the patient.

NPWT by itself is expensive at about USD 400 initial installment and subsequent USD 100 for change of canisters. For those who can afford it, it is worthy the cost and does not have to be all done in the hospital. Follow up can be done at home by a wound care nurse. The period of drainage has varied between one and eight weeks (5-7).

It should be remembered that all treatments have their complications and so is this one, so care should be taken first to train the users, then learn the complications. For example a patient on anticoagulants should be carefully monitored initially to make sure that not all the blood is being lost to the drain, infection could be perpetuated by a swab left in the wound or inadequate debridement. Whereas it is not feasible or desirable to establish centres dedicated to wound care in the developing countries currently, it is necessary to train wound care doctors and nurses and especially the latter. The wounds should be then taken care of both in the hospital and at home.

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