The Use of Omega3 Rich Fish Skin Xenograft in the Treatment of Superficial Burns and Split Thickness Skin Graft Donor Sites

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Introduction
When treating large burns, autologous skin availability becomes a problem and burn surgeons often rely heavily on allogenic and xenogeneic skin for temporary coverage after excision. Application of cadaveric and pig skin grafts carries a risk of autoimmune response and risk of viral and bacterial diseases transmission, and there are many cultural and religious rejections for use of porcine grafts. There has recently become available an alternative resource of xenograft using acellular fish skin (KerecisTM Omega3 Burn). This has been described as providing an effective, safe, efficient skin substitute, free of the risk of transmission of viral disease and auto-immune reaction risk.

Results and Discussion
This is the first study to show the effectiveness of using fish skin in acute burns. The experience in our centre for partial thickness burns is promising. The accelerated healing outcomes for the treatment of donor site wounds is also highly encouraging, especially when compared to RCTs on other products. Both a significant analgesic effect noted and the relatively short average times until 100% re-epithelialisation are promising.

Methods
Ten patients having split-thickness skin grafting for burn injury were treated with the fish skin xenografts. All patients were over 18 years of age. All donor sites were harvested at a depth of 8/1000th of an inch. After soaking of the fish skin in saline, the fish skin was applied and held in place with a secondary dressing. The first dressing change to the donor site after surgery was performed at seven days and then was performed every three days thereafter until fully healed. The symptoms and signs of infection were assessed, and pain was assessed using a Verbal rating Score of 0-10 at each dressing change. Days to 100% epithelialisation were recorded.

Lessons Learned:
- Healing using the fish skin product appeared to be at least as good if not better than other dressings
- Potential non-opiate analgesic effect due to reduced inflammation.