Carcinoma in Split Skin Graft

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SKIN grafting is done almost by every surgeon but any one has hardly ever reported carcinoma occurring in a split skin graft. We have on record two such cases where carcinoma occurred in split skin grafts. These two cases are reported here.

Case No. 1

S. S. 24 years, male, first sought medical advice in 1962 for B/L contractures popliteal fossa with equinus deformity and shortening of right leg following petrol burns 6 years earlier. Release of contracture left popliteal fossa was done elsewhere but it was not covered with SSG. Skin graft of the left popliteal wound was done in July, 1962. Following that, release of contracture right popliteal fossa with SSG was done in October, 1962 and the patient could walk with the help of crutches, with right knee in 30° flexion. 4½ years later, in 1967, patient reported with a chronic ulcer right lower leg, of about 4 months duration and of the size of 3″×5″. This alongwith surrounding scar was excised and SSG applied in sheets without sutures. (Photograph 1). 1½ years later he reported with oval shape ulcer in the popliteal fossa in the region of SSG following a minor injury and infection of about 8 months duration (Photograph 2). This was about 4″×5″ in size, with foul smelling discharge, irregular margins and hyperpigmented surrounding skin. A biopsy was taken which proved to be an epidermoid carcinoma. X-ray right leg showed tumour deposits in the right fibula. Patient refused amputation.

Fig. 1—Popliteal fossa and back of right leg after SSG

Case No. 2

S. S. a young Sikh boy, at the age of about 12-13 years, while playing about had his long head hair caught up in a rotary

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machine resulting in avulsion of scalp. He was treated in a district hospital where SSG was given over the scalp. He remained almost completely well for about 6 years. He reported to us in 1975 with an ulcerated swelling at the top of the vault of about 3

Fig. 2—Epidermoid carcinoma occurring in right leg and popliteal fossa after SSG.

months of duration with headache and frequent vomiting. The granulating mass was soft and clinically resembled a non-healing chronic ulcer. Excision biopsy with skin graft was done. Histopathology revealed it to be an epidermoid carcinoma and X-ray scalp showed involvement of the underlying skull bone. Recurrence of the tumour occurred within two weeks in the second SSG (Photograph 3). Pre-operative DXT 2600 r was given. Subsequently the tumour and a wide area of underlying skull bone was excised but the tumour was found to be infiltrating the duramater in the region of saggital sinus. This portion of the tumour could not be excised but was destroyed with electric cautery. The defect was covered with a tube pedicle prepared and carried from the adbomen. Once the flap had taken up completely, a course of DXT 4500 r was given in four weeks to the tumour area. Patient remained well for about 4-5 months but he again reported with recurrence of tumour ulcerating through the pedicle flap. However, there was no involvement of the cervical lymph nodes at any stage and no secondaries in the chest or elsewhere have been detected so far.

Fig. 3—Recurrent epidermoid carcinoma in SSG after excision of tumour in skin graft over scalp.

Discussion

Split skin grafting forms an important part of routine surgery but a malignant change usually does not occur. However, cases are reported where an epidermoid carcinoma occurred in reconstructed tissues. Carcinoma following reconstruction of vagina by skin flaps has been reported occurring after about 20 years by Duckler in 1972. Similarly carci-

noma occurred after 16 years following tracheo-oesophageal injury and repair with a skin flap (Denecke, 1974). The possible explanations put forward are either chronic irritations due to constantly discharging saliva through the oesophageal fistula, or chronic vaginitis. It could also have arisen from the hair follicles. An epidermoid carcinoma occuring in a surface split skin graft is almost unknown. We have seen it in two cases reported above arising from the surface epithelium. The skin adenexa do not seem to participate in the tumour formation which is a well differentiated squamous cell carcinoma in both these cases. The exact etiology and origin is not known but it could be due to a spontaneous metaplasia in the skin graft epidermis. Regional lymph node involvement is not seen, possibly due to destruction of lymphatics in the surrounding scarred area. The spread occurs locally towards the deeper tissues. Even though the tumour is well differentiated histologically, biologically they have behaved in a highly malignant manner. With all possible aggressive treatment in the 2nd case, the therapeutic response was found to be very poor. It may be argued that genesis of carcinoma in both these cases could be from scarred areas in between the skin grafts. but the grafted areas in which these tumours have developed were very pliable and soft. In contrast to Marjolin ulcer, which is surrounded by dense scar and hence slow growing, these tumours were clinically very fast growing. This can only be theorised by the absence of mechanical barrier which is normally provided by scar tissue in Marjolin ulcer.

Summary

Two cases of epidermoid carcinoma following surface SSG-one over the right leg and another over the scalp are reported here. Such a complication should be carefully looked for and kept in mind during follow-up in all skin grafts.

REFERENCES

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