

CASE REPORT

A RARE CASE OF SCALP NEUROFIBROMATOSIS AND RECONSTRUCTION BY TISSUE EXPANDER

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ABSTRACT: BACKGROUND AND OBJECTIVES: Tissue expander is a technique to correct large defects created by excision of tumors, treatment of male pattern baldness, breast reconstruction and several other conditions with excellent cosmesis. A plexiform neurofibroma is a condition which is cause of cosmetic embarrassment in patients with neurofibromatosis. Patients present late with tumors of large sizes. Excision of these tumors invariably creates large defects which cannot be approximated adequately. The use of tissue expander to achieve the closure of defect caused by excision of a plexiform neurofibroma has been demonstrated. **METHODS:** A patient of neurofibromatosis with a plexiform neurofibroma was subjected to the placement of a tissue expander adjacent to the tumor. After achieving the required flap, tumor excised and defect covered with the flap created. **RESULTS:** The use of tissue expander yielded adequate flap coverage and also excellent aesthetic result at the end of 3 months.

KEYWORDS: Tissue expander, Aesthetic, Defect correction.

INTRODUCTION: The tissue expander has added a new dimension to the world of plastic surgery since its development.⁽¹⁾

When skin is stretched beyond its physiological limit mechano transduction pathways are activated which result in cell growth and increase in cell number.^(6,7) It is used in a variety of cases to develop skin and tissue flaps for defect correction without undue tension.

The tissue expander consists of a silicone elastomer expander with a remote silicone elastomer injection dome. The silicone expander is available in variety of shapes like elliptical, rectangular, round and crescent shaped.

We would like to present a case of neurofibromatosis of the scalp^(8, 9) which was excised and subsequently tissue expander was used to correct the defect in scalp to achieve good aesthetic appearance.⁽²⁾

CASE PROFILE: A 23years old male presented with a history of a mass over the back of the scalp left side. The mass had been present since birth and has been gradually progressive in size over past several years. The patient reported no pain or other deficits but a significant embarrassment over the disfigurement caused by the mass.

Physical examination revealed a soft tissue mass of scalp that extended from vertex to 1 cm below occipital protuberance and horizontally from 5cms medial to right mastoid to left post auricular hairline.

Size of mass was 15x17cms and it had indistinct edges. Color of skin was normal with no other secondary changes. There were no other similar swellings in the body. A clinical diagnosis of plexiform neurofibroma was made and confirmed with CT scan. The patient was advised resection.

CASE REPORT

An incision was made in right side of the occiput, space created between the pericranium and aponeurosis, tissue expander of 350ml size rectangle shape placed with port at the right mastoid region and sutured. After 7 days sutures were removed .There were no complications related to the wound.

After 1 week the tissue expander was expanded with 50 ml of saline pushed through the port. The process of expansion was carried out every 5 to 7 days with 50-100 ml of saline for five weeks. The surface of the skin was monitored for shininess, ulceration and other secondary changes. In this case no such changes were observed. Finally after 7 sittings a final volume of 350 ml was achieved after five weeks. The tissue expander was left in situ for 3 more weeks.

In the second stage surgery the expander was removed and the plexiform neurofibroma of 15 x17cms was excised leaving behind the pericranium. Expanded tissue was utilized to cover the raw area with minor skin adjustments. A drain was placed and removed after 3 days. Sutures were removed after 8 days. No complications^(3- 5) were observed at the wound site at the end of 3 months excellent uptake and cosmetic result was observed.

DISCUSSION AND CONCLUSION: A tissue expander is commonly used in reconstruction of large defects created by excision of tumors. The expander is to be placed in the adjoining tissue to the area to be excised. After creation of a flap which is adequate to cover the anticipated defect, it is removed. Subsequently after defect is created by excision it is covered with the flap to achieve excellent cosmoses.

Plexiform neurofibroma with tissue expander in situ:



CASE REPORT



Post operative Day 1: After excision of neurofibroma



Post operative Day 1: After excision of neurofibroma



1 Week

CASE REPORT



1 Week



1 Week



3 Weeks

CASE REPORT



3 Months



3 Months

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CASE REPORT

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