

CASE REPORT

Successful Correction Of Depressed Scar By En Bloc Autologous Fat Graft - A Case Report .

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Abstract

The surgery for beautification of a person is known as cosmetic surgery. Treatment of ugly scar can be done by scar revision. But depressed scar poses additional challenge to the plastic surgery. In addition to the scar revision soft tissue augmentation is needed in such cases. There is no report of any work on this type of surgery in our country. We are therefore reporting this interesting case where a depressed scar was successfully treated by en bloc autologous fat graft method. A young girl of 19 years presented with an ugly scar extending across the neck due to healed TB lymphadenitis. There was a depression measuring 5cm x 3cm x 1.5cm in the left submandibular area. Under general anaesthesia, scar excision and soft tissue augmentation was done. Twenty percent over correction was required to allow for subsequent graft resorption. Six months postoperatively the operated area became level with the surrounding skin, giving the patient a pleasing appearance. The author believes that with short intensive training programmes this type of soft tissue augmentation surgery can become a common operation for our surgeons.

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Introduction

Cosmetic surgery is a branch of plastic surgery, which deals with beautification of a person. The word cosmetic is derived from a Greek word "Kosmeticos" which means to beautify. Various types of surgeries are included in this field. The commonest is liposuction where unwanted fat from different parts of the body such as the abdomen, hip and breast is removed for cosmetic purpose¹. Depressed scars especially when it is situated in the face or neck region can be very unsightly. Plastic surgeons have used different cosmetic surgical techniques to correct the deformities. Scar revision by itself can correct odd looking stretched scars or scars which run across the skin creases, but depressed scars require more than simple scar revision. Here the depression needs to be elevated by en bloc fat graft usually taken from the dermis. The other possibility is the use of processed fat derived from liposuction. There is no report of any work on soft tissue augmentation

surgery in Bangladesh. We are therefore reporting this interesting case where a depressed scar in a young girl was successfully treated by auto-logous en bloc fat graft method.

Case report

An unmarried girl of 19 years was admitted in the department of plastic surgery, ZH Sikder Medical College Hospital with the complaints of an ugly scar in the neck (Fig 1). She gave history of tubercular lymphadenitis of the neck during childhood. History also revealed that the pathology progressed to cold abscess formation and multiple discharging sinuses. They healed gradually by anti tubercular therapy and at present she is totally cured. But she was facing social problems regarding her marriage due to the unsightly scar.

Local examination revealed a big scar extending across the front of the neck. A large depression was evident (measuring about 5 cm transversely, 3 cm vertically and 1.5 cm deep) on the left side occupying the whole of the submandibular region. There was puckering along with a particularly odd looking elevation in the center of the scar extending slightly on to the right side. There was no evidence of active disease and no palpable lymphadenopathy. Routine blood examinations and a plain X-ray chest revealed no abnormality.

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Procedure

Under general anaesthesia and in extended neck position (head supported by ring) the scar was carefully marked out with mapping pen. A stab knife was used to excise the scar; homeostasis being ensured by diathermy. A large pocket of depression was found in the left submandibular region when upper and lower skin flaps were raised. The whole of submental pad of fat along with the overlying dermis was excised en bloc. This excision helped in the correction of elevated deformity near the center of the scar.

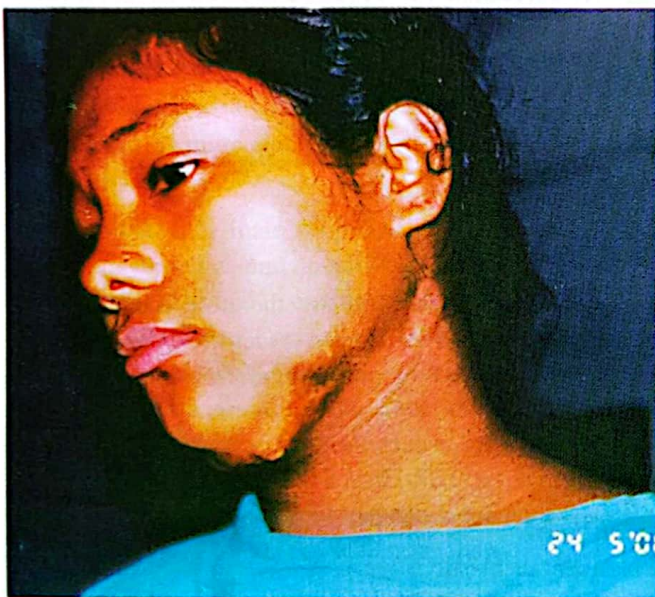


Fig 1: Depressed scar in the neck due to TB lymphadenitis.

The excised fat was then carefully trimmed (very minimally) to size and inserted into the depression in the left side of the wound - making sure that there was some over correction (Fig 2). The fat graft was then held in place by a few 6 'O' vicryl sutures. The wound was finally closed in two layers³/₄an interrupted vicryl stitch for the platysma and a continuous subcuticular 5 'O' vicryl for the skin. Wound closure was reinforced with steristrips and a sterile dressing was applied. Drainage was not employed. Photographs were taken before, during and after operation for later comparison and evaluation of the results. The patient recovered fully on the 6th postoperative day and she was then released.

Discussion

It is very interesting to note that a rather big area of depressed scar in the neck could be successfully grafted by this technique. This is the first case report on soft tissue augmentation by fat graft in this country.



Fig 2: Dermal fat graft being placed into the depressed area.

Some overcorrection had to be made to allow for the subsequent resorption, which occurs inevitably after any fat graft^{2,3}. An overcorrection of 20% was done which made the area look a bit elevated and swollen (Fig 3). We did tell the patient preoperatively about the need for overcorrection, so that she should not complain about it. During the 6 months following operation, some resorption of the graft has taken place. Now the operated area looks more or less level with the surrounding skin giving the patient a pleasing appearance (Fig 4). Follow-up for 12 months showed a stable graft with no further resorption.

In this patient we kept a thick layer of subcutaneous fat in addition to the dermal fat (taken from the submental area) because the scarred area was quite deep. It was not possible to allow for the all important over correction with the usual dermal fat graft technique where a very thin layer of subcutaneous fat is taken with the dermis.

Often subsequent intervention such as fat injections into the operated area is required. This is done to correct any



Fig 3 : Immediate postoperative picture showing some amount of overcorrection.

recurrence in depression due to over-resorption of the fat graft. We did not have to inject any fat. Usually dermal fat graft is harvested from the thigh, buttock or lower abdomen².



Fig 4: The final outcome

Autologous fat from the subcutaneous tissue can also be used for liposculpture. Here fat removed by liposuction of one area (commonly abdomen) can be injected into a different location for soft tissue augmentation e.g., in cheek areas or depressed scar. Recently stromal progenitor cells processed from the liposuction or abdominoplasty fat is being used for autologous fat transfer. Here mature lipocytes and stromal cells which are separated by the process of homogenization and centrifugation are used.

This processed fat is said to be ideal for fat injection procedures in cosmetic surgery especially for treatment of skin wrinkles⁴. With the development of microsurgical technique transfer of vascularized autologous fat tissue has become feasible. Vascularized omental free flaps may be used for facial soft tissue reconstruction, particularly hemifacial atrophy and craniofacial microsomia⁵.

The authors believe that with short hands-on training programme with particular attention to the operative details, this type of soft tissue augmentation surgery can become a common operation for our surgeons.

References

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Participation in international seminars/conferences/meetings:

Major General (retd.) Anis Waiz, Principal, Bangladesh Medical College attended the 5th Annual Meeting of the Global Forum for Health Research in Geneva from 9-12 October 2001.

Prof. Anisur Rahman, Dept. of Surgery, BMC was invited as an International Faculty to present two papers at the Minimal Invasive Surgery International Conference 2001, held in Coimbatore, India, from 19-21 October, 2001. The papers titled "Retroperitoneoscopic Lumbar Sympathectomy" and "Granulomatous port site infection after Lap. Cholecystectomy" generated lot of interest. Prof. Rahman also presided over the first scientific session in the Conference.

Dr. Mahmud Hasan, Assoc. Professor of Psychiatry, BMC, attended the International Seminar in Australia from 10-12 August, 2001. He presented a paper on "Schizophrenia, Recent Advances in Management" in that seminar.

Dr. Md. Fakhru Islam, Assoc. Professor of Urology, BMC participated in the International Congress on Urology held in Bangkok from 14-17 November 2001.

Dr. Jesmin Manzoor, Asst. Professor of Dermatology, BMC attended the International Conference on Continuing Medical Education (CME) on Dermatology held at Habitate Centre, Lodhi Estate, New Delhi, India from 4-6 November, 2001.

Seminars/workshops held at BMC:

Seminar on "Management of Type II Diabetes Mellitus" & "Lumbar & Cervical Microdiscectomy" was held on July 24, 2001. It was organized by the dept. of Medicine.

Seminar on "New Directions in the Management of Epilepsy" & "Psychiatric Aspect of Epilepsy" was held Nov. 14, 2001, jointly organised by Dept. of Neurology and Dept. of Psychiatry, BMC.

Seminar on "Rational Prescribing: Challenge for the Prescribers" was held on Nov. 22, 2001, jointly organized by the Dept. of Pharmacology & Therapeutics, BMC and Health action Forum (HAF).

Workshop on Quality Assurance in Medical Education was held in BMC from 22-25 Oct. 2001. This was jointly

organized by Centre for Medical Education, Mohakhali, Dhaka and Medical Education Centre, BMC.

Degrees obtained:

Dr. Labuda Sultana, Asst. Professor of Children, Preventive and Community Dentistry, BDC achieved her MSc in Dental Public Health from King's College under London University. Her thesis was done in Bangladesh under supervision of Dr. Zhaiful Hasan, Head of the department of Microbiology, BMC and Professor Stanley Gelbier, Head of Dept. of Dental Public Health, King's College, London.

New promotions:

Capt. Khairuddin Barkat (Retd.): Superintendent of BMCH.

Dr. Hasan Shahid Suhrawardy: Professor of Ophthalmology

Md. Shamsul Alam: Chief Accounts Officer of BMSRI.

Dr. M. Moniruzzaman: Vice Principal of Physiotherapy unit, BMC.

Dr. MA Jaigirdar: Associate Professor of Paediatrics, BMC.

Dr. Md. Mujibul Haque Mollah: Associate Professor of Nephrology, BMC.

Dr. Sharmeen Yasmeen: Associate Professor of Community Medicine

Dr. Khurshid Ara Begum: Assistant Professor of Biochemistry, BMC.

Dr. Siddika Sultana: Consultant in Clinical Pathology of BMCH Diagnostic Complex.

Md. Shafiuddin: Asst. Director of Medical Education Centre, BMC.

Farida Begum: Librarian of BMC.

New appointments:

Prof. Shahla Khatun: Professor of Gynae & Obstetrics, BMC.

Dr. Fakhrul Islam: Assoc. Professor of Urology, BMC.

Dr. Abul Kalam Azad, Assoc. Professor & Head of the dept. of Nutrition & Biochemistry, NIPSOM: Joint Advisor of HMQAAP of BMCH.

Dr. Ehsanul Kabir: Asst. Professor of Dermatology, BMC.

Dr. Shahana Begum: Asst. Professor of Oral Surgery, BDC.

Dr. Javed Mahmood: Asst. Professor of Dental Chemistry, BDC.

Dr. Ferdous Mahal: Consultant of Gynae & Obstetric, BMC.

Dr. Shahabuddin Talukdar: Consultant of Cardiology unit, BMC.

Dr. Md. Tahammul Haque: Consultant of Radiology & Imaging, BMC.

Dr. Shahida Banu: Jr. Consultant of Anaesthesiology, BMC

Dr. Abul Hasan Mohammad Kabir: Registrar of Cardiology unit, BMC.

Dr. Erfanul Huq Siddique: Lecturer of Anatomy, BMC.

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Dr. Ahmedul Kabir Chowdhury: Lecturer of Anatomy, BMC.

Dr. Md. Mustafizur Rahman: Lecturer of Anatomy, BMC.

Dr. Farazi Bakhtiar Ahmed: Lecturer of Anatomy, BMC.

Dr. Md. Moktadir Kabir: Lecturer of Physiology, BMC.

Dr. Khan Fariduddin Md. Ayaz: Lecturer of Physiology, BMC.

Dr. Mahfuja Rahman: Lecturer of Biochemistry, BMC.

Dr. Abu Rushd Mohammad Mashrur: Lecturer of Children Preventive & Community Dentistry, BDC.

Dr. Zafrina Islam: Lecturer of Dental Pharmacology, BDC.

Dr. Farjana Sultana: Lecturer of Dental Pharmacology, BDC.

Dr. Rahena Akhter: Lecturer of Oral Surgery, BDC.

Dr. Jainal Abedin: Lecturer of Dental Pharmacology, BDC.

Dr. Farhana Choudhury: Medical Officer of Dental unit, BDC.

Dr. Sadia Afroz: Lecturer of Microbiology, BMC.

Dr. A. K. M. Ekramul Huq: Lecturer of Microbiology, BMC.

Dr. Syeda Wahida Fairoz: Lecturer of Physiotherapy unit, BMC.

Dr. Shahpar Mahboob: Asst. Registrar of Gynae & Obstetric, BMC.