Clinics in Surgery

Editorial
Published: 27 Sep, 2017

Advances of Maxillofacial Surgery

*Raja Kummoona**

Department of Maxillofacial Surgery, Iraqi Board for Medical Specializations, Baghdad, Iraq

Editorial

During the last two decades we tried to advance maxillofacial surgery by research through experimental surgery and advocating many surgical techniques for managements of temporomandibular joint (TMJ) disease such as ankyloses of TMJ in adult and children, hypoplasia of the condyle or missing condyle as in milled hemifacial microsomia, by reconstruction of TMJ by Kummoona Chondro-Ossousgraft, this graft found to be much more superior than costo-chondral graft. Reconstruction of hemi facial microsomia required a series of operations for correction of and closure of transverse facial cleft and correction of angle of mouth, excision of pre auricular tags, transfer of platysma muscle from the neck for building masseter muscle, reconstruction of zygomatic arch by rib graft and reconstruction of glenoid fossa by cartilage graft from the ear before reconstruction of the TMJ by Chondro-Ossous graft.

Other problems we faced was chronic recurrent dislocation, these cases was treated by advocating new biological technique by transfer temporal fascial finger shape flap inferiorly based by turning down for reconstruction of lateral and anterior walls of the capsule for re inforce lax capsule with creation of an osteoctomy in 45° toward the joint just in front of articular eminence and a piece of cortical cancellous bone of about 1.5 cm from iliac crest inserted and impacted in the gap created and work an obstacle to prevent forward movement of the condyle.

War surgery is a hot topic including missile war injuries of the face, our experience based on 4 wars and managements of these victims by primary care or secondary phase, demanding experienced knowledge with skills and expertise in management of very complicated cases.

Blast injuries affecting the face may cause blunt truma, perforating, penetrating or avulses wounds, missile wounds either caused by high velocity or low velocity weapons and classification of missile injuries of the face is based on 3 criteria, type of missile, type of wounds and site of injuries and many of these cases considered as life threatening injuries. Managements either by immediate invasive surgical intervention as one stage surgery or by palliative technique through series of elective surgical intervention. The most important managements of missile war injuries is based on immediate managements of soft tissue is the most critical point starting by repairing the oropharynx, muscle repair, mucosa and bony fragments should be placed and fixed in anatomical position, finally the skin of the face repaired, this primary phase. Secondary phase required correction of soft tissue by flaps and bone graft for reconstruction of bony defect with excision of scars. Managements of missile war injuries of the face and managements of post-traumatic missile injuries in Iraq made great progress of war surgery worldwide.

In cancer surgery the major problems was after excision of the oral cancer of the tongue, floor of the mouth and cheek, we faced a large defect we did advocate a lateral cervical flap for reconstruction of oral structures after cancer surgery, this flap consist from skin, platysma muscle and fascia, the blood supply comes from branches of external carotid arteries specially sub mental branch of the facial nerve for platysma muscle and superficial branch of occipital artery for the skin, the advantage of this flap is superiorly based, arc of rotation more than 90°, thin flapsuitable to oral cavity, hairless and well tolerated by oral structures. Further to that it was found elevation of flap give also a good access for radical neck dissection, it was a good flap for reconstruction of submental area in post-traumatic missile injuries of the face before grafting the missing part of the mandible.

Finally we did chose animal models for experimental surgery. In the past we did use Mecaca Iris monkey's for reconstruction of the TMJ by 2 parts chrome cobalt prosthesis, these animals required special care with complete isolation in sterile cages with special food but these animals have a tendencies to TB.

Rabbits been used by us for several operations as a good animal model, its cheep, available, healthy clean , vegetarian and we can keep many animals in one cage and these animals vaccinated

OPEN ACCESS

Correspondence:
Raja Kummoona, Department of Maxillofacial Surgery, Iraqi Board for Medical Specializations, Baghdad, Iraq, E-mail: dr_raja_kummoona@yahoo.com

Received Date: *31 Aug 2016*
Accepted Date: *21 Sep 2017*
Published Date: *27 Sep 2017*

Citation:
Kummoona R. Advances of Maxillofacial Surgery. Clin Surg. 2017; 2: 1643.

before our surgery. Rabbit was used to test the viability of lateral cervical flaps by reconstruction of the tongue after hemi glossoctomy, and for reconstruction of sub mental area the result was quite good.

Rabbit also used for assessment of the condyle as agrowth center by excision the head of condyle of young rabbit after 3 months, we did found severe deformity of the jaw and the mandible twisted to the effected side, the second operation was reconstruction of the TMJ of Rabbit by Chondro-Ossous graft from iliac crest, the aim was to study the histological changes of the graft we did found the graft has the ability to grow in multi directional fashion with an ability to grow, repair and remodeling with intrinsic growth potential, with presence of mesenchymal stem granular layer as second layer with presence of G-protein coupled receptor (CXCR4) predominantly in hyper trophic chondrocyte while its ligand chemokine stromal cells derived factor (SDF-1) is expressed in the bone marrow adjacent to hypertrophic chondrocyte.

Rabbits were used for elongation of the mandible by distraction technique, distraction with 3 phases, surgical phase, latent period phase and consolidation phase.

The most critical and vital point in the distraction is the latent period phase which elapsed between 3-7 days. We found by our research by studding the latent period after surgical phase a gap created by osteoctomized of the bone, during latent period a healthy granulation tissue formed with mesenchymal stem cells derived from periosteum and bone marrow with heavy formation of fibroblast oriented with the same direction of distraction forces with new bone formation by stretching of bone by rhythmic distraction technique of 1 mm per day divided in 2 terms of 0.5 mm, we did achieve 10 mm elongation of Rabbit mandible.

We believe experimental surgery on good animal model is a great benefit for humanity and to improve the surgical field of Maxillofacial Surgery.