



AN UNUSUAL CASE REPORT OF PANFACIAL INJURY FOLLOWING BULLOCK CART TYRE BURST

Dr. C. Selvakumar	M.S, Mch (Plastic surgery), Senior Assistant Professor, Department of Plastic Reconstructive and Facio-maxillary surgery, Madras Medical College and Rajiv Gandhi Government General Hospital, Chennai -600 003
*Dr. H. Divya Devi	M.S, Mch (Plastic surgery), Assistant professor in Kilpauk Medical College & Hospital Contact address: GF3, Vasanth apartments, No.1, Srikrishnapuram street, Royapettah, Chennai- 600014. *Corresponding Author
Dr. S. B. Sethu Rajan	MDS (Oral and Maxillofacial surgery), Senior Assistant Professor, Department of Plastic Reconstructive and Facio-maxillary surgery, Madras Medical College and Rajiv Gandhi Government General Hospital, Chennai -600 003
Dr. K. Mahadevan	M.S, Mch (Plastic surgery), Senior Assistant Professor, Department of Plastic Reconstructive and Facio-maxillary surgery, Madras Medical College and Rajiv Gandhi Government General Hospital, Chennai -600 003
Dr. J.Jaganmohan	M.S, Mch (Plastic surgery), Professor and Head of Department, Department of Plastic Reconstructive and Facio-maxillary surgery, Madras Medical College and Rajiv Gandhi Government General Hospital, Chennai -600 003

(ABSTRACT) Purpose: To evaluate the outcome of bottom up-inside out approach in early anatomical reconstruction of Panfacial fracture.

Case report: A 35yr. old male presented to the casualty with isolated facial injury following bullock cart tyre burst. He had sustained right Lefort III fracture; dentoalveolar fracture with open midline split of the maxilla and left parasymphysis fracture of mandible. His airway was immediately secured and was taken up for emergency surgery.

Intra operatively, mandible was reconstructed and maxilla was disimpacted to obtain near normal midfacial projection. Postoperatively, the wound healed well with minimal scarring and stable occlusion.

Conclusion: Early intervention in Pan facial injury helps to achieve proper facial projection and stable occlusion with minimal complications.

KEYWORDS : Tyre burst injuries, Panfacial injury, Bottom-up inside-out approach

INTRODUCTION:

The destructive potential of tyre explosions has received little attention in the medical literature. Fatal and severely deforming injuries have been reported. Most tyre explosions occur during servicing.¹ We present a patient with panfacial injury following bullock cart tyre burst, for whom early surgical reconstruction was done by bottom up-inside out approach.

AIM:

To evaluate the outcome of bottom up-inside out approach in early anatomical reconstruction of panfacial fracture.

CASE REPORT:

A 35 Yr. old male sustained facial injury due to bullock cart tyre burst during servicing. He was received in our casualty with isolated facial injury which was virtually splitting the face on the right side, lifting off the nose, right cheek and upper lip and a laceration on the left side of lower lip. He was intubated immediately to secure airway. He was investigated and he had right Lefort III fracture; dentoalveolar fracture with open midline split of the maxilla and left parasymphysis fracture of mandible.



Figure 1 : Preoperative picture depicting the severity of injury and Intraoperative picture showing the reduction and fixation done using 2mm miniplates.

He was taken up for emergency surgery after ruling out other injuries. Intraoperatively, mandible fracture was addressed first and fixation was done using 2mm miniplates. Then with mandible as reference, occlusion was obtained by disimpacting the maxilla and maintained by maxillomandibular fixation. Multiple miniplates were used to fix the buttresses and near normal midfacial projection was obtained. After bony fixation, soft tissue was repaired in layers.

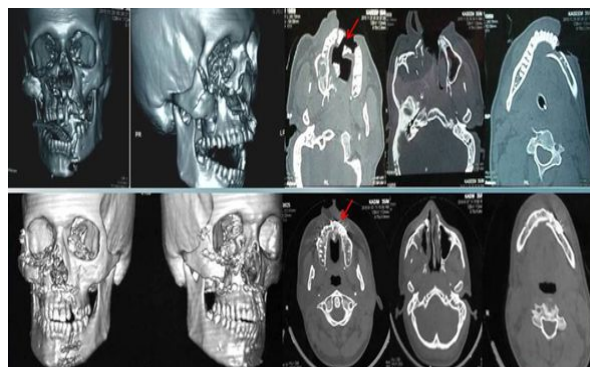


Figure 2: Comparative preoperative and postoperative CT facial bones showing adequate bony stabilization obtained of the right lefort III fracture, midline palatal split (red arrow) and left parasymphysis fracture

Postoperatively, the wound healed well with minimal scarring and stable occlusion. He although had epiphora and angle of mouth deviation to left which improved on conservative management.



Figure 3 : Postoperative pictures showing the near normal facial recontouring with stable occlusion obtained.

DISCUSSION:

Tyre burst injuries are similar to those occurring from any other explosive devices.^{1,2,3} Injuries can be fatal. Injuries occur due to primary blast waves, secondarily due to a dislodged loose iron locking rim of the tyre or tertiary effect because of body being thrown away causing deceleration injuries.^{1,2} These injuries are common among servicing personnel. Head and face are commonly involved.³ Our patient sustained panfacial injury. Main goals in managing panfacial fracture are restoration of function and facial contour. Two major approaches are “Bottom up and inside out” or “Top down and outside in”.⁴ Yang et al., reported the satisfactory effects after following the “Bottom up & inside out” sequence which was used in this case and helped in stabilising the mandibular fracture first which was a foundation for further fixing maxillary fractures.^{5,6} Early management of our patient within 24hrs resulted in functional and aesthetic restoration of face with minimal scarring.

CONCLUSION:

Tyre blast can cause severe injuries leading to high morbidity and mortality. Safety measures are to be followed by servicing personnel to avoid injuries. Early intervention in Pan facial injury helps to achieve proper facial projection and stable occlusion with minimal complications. “Bottom-up and inside-out” approach helped to achieve good results.

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