Nasal Fractures in Children*

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Summary. A group of thirty children with nasal fractures was evaluated retrospectively by means of a questionnaire and hospital records. Age at the time of injury ranged from age 3 to 12 (mean = 8.6) years and mean follow-up period was 9 years. Eight patients reported some degree of nasal obstruction post reduction, but only one patient required submucous resection and two patients underwent septorhinoplasty for appearance. No patients reported class III malocclusion, or required orthodontic treatment or maxillofacial corrective surgery for maxillary hypoplasia. We concluded that a childhood nasal fracture treated by closed reduction does not have deleterious effects on facial or nasal growth.

Key words: Nasal fractures – Children – Nasal growth – Growth deformity

Materials and Methods

This is a retrospective study of 78 patients, evaluated at Boston Children's Hospital from 1966 through 1980, who had a nasal fracture on physical examination, confirmed, radiographically. Children 13 years or older at the time of injury were eliminated, leaving a total of 58 patients. All nasal fractures were treated by closed reduction and splinting under general anesthesia; intranasal packing was used, when necessary. Follow-up data was obtained by letter or telephone response to a questionnaire for 30/58 patients. The study documented preoperative nasal appearance and function, and correlated this with postoperative and long-term changes. Facial growth was indirectly assessed by asking the patients if they had any "bite" problems and, more specifically, if they had an underbite. The patients were also asked if they had undergone orthodontic or orthognathic surgical procedures.

Results

All patients in this study had isolated closed nasal fractures without involvement of the nasoethmoid complex or severe anterior posterior dislocation. There were no other associated facial fractures; but 3 patients had associated minor lacerations. Sixty-two percent of the patients were male and 38% were female. The average age at injury was 8.6 years (range 3 to 12) and the mean time after treatment was 9 years; therefore the average age at follow-up analysis was 17.6 years.

The most common etiology was a fall, frequently from a bicycle. Blunt trauma was also common, usually from a ball or bat. There were no fractures resulting from fisticuffs; in one-third of the cases, the circumstances surrounding injury were obscure. One child presented 3 weeks post injury with a septal hematoma and subsequently developed nasal collapse secondary to cartilage resorption.

Five patients reported a permanent alteration in the appearance of the nose after reduction; 4 pa-
Fig. 1a–d. Six-year-old male at time of nasal fracture with deviation of the nose to the right: a AP view. b Lateral view. c Eleven-year follow-up photo. The patient has no septal deviation, with a straight nose and dorsal line, and has not required orthodontia. d AP view. e Lateral view.