

CLINICAL AND RADIOLOGICAL CHARACTERISTICS OF DIAGNOSTICS OF COMBINED INJURIES OF THE PARANASAL SINUSES

Karimberdiev B.I.

Tashkent Medical Academy, Uzbekistan

Bakieva Sh.Kh.

Tashkent Medical Academy, Uzbekistan

ABSTRACT: Combined injuries of the paranasal sinuses (CIPNs) in 95% are combined with injuries of the facial bones and skull. The presence of damage to the paranasal sinuses (SNP) in this category of patients is characterized by a high incidence of infectious complications, which manifest themselves both in the early and later periods after the injury. The frequency of complications in combined injuries reaches 80% or more, mortality from 33% to 90%.

KEYWORDS: Combined injuries, paranasal sinuses, maxillofacial region.

INTRODUCTION

This scientific work is based on the results of a survey of 142 patients with concomitant SNP injuries. All patients received inpatient treatment in the department of adult ENT and maxillofacial surgery, neurosurgery, traumatology, anesthesiologists and resuscitation at the multidisciplinary clinic of the Tashkent Medical Academy in the period from 2018 to 2021. The age of the patients was from 18 to 68 years, out of 142 patients there were 112 men (78.8%), women 30 (21.2%).

MATERIAL AND METHODS

The material of a clinical study is analyzed, which is based on the results of a survey of 142 patients with concomitant SNP injuries. Patients received inpatient treatment at the multidisciplinary clinic of the Tashkent Medical Academy in the period from 2018 to 2021.

There were more men in the material, they made up 78.8%, there were fewer women, they made up only 21.2%. The mean age of the surveyed averaged 43.4 ± 2.1 years. An analysis of the hospitalized showed that 91.5% (130 people) of the patients were delivered on the first day after the injury, and 7% (10 people) of the patients were delivered on the 2nd day, only 1.4% (2 people) were delivered on the 3rd day after injury.

2.8% of patients had a skull fracture, and 10.6% of patients had a fracture of the naso-zygomatic-orbital complex, 2.8% had a fracture of the zygomatic bone, 2.1% of patients had a fracture of the upper jaw, 15.4% of patients had a fracture of the walls of the orbit, 13.4% of patients had damage to soft tissues with a violation of their integrity, 48.6% of patients had a bruise and hematoma of

the soft tissues of the face, and the remaining 4.3% of patients had combined multiple injuries of the facial skeleton.

During endoscopic examination of the nasal cavity, hemorrhages of the submucosal nasal cavity were determined (n=51; 36%), the presence of blood clots in them (n=62; 43.6%), the condition of the turbinates, the condition of the nasal septum, paid attention to the state of natural fistulas, secretions in them.

Hematoma of the nasal septum was determined in (n=51; 36%), the presence of curvature of the nasal septum was noted in (n=41; 28.7%), patients, the presence of fresh blood from the natural anastomosis was detected in (n=62; 43%) , serous discharge in (n=21; 15%), purulent discharge in (n=3; 0.02%) patients. Purulent discharge was determined in patients who had a history of chronic inflammation in the maxillary sinus. Asymmetric pupillary line, diplopia when looking up/down and left/right were identified in (n=32; 22.5%) patients.

We used radiography of the paranasal sinuses when patients were admitted to the emergency department in two projections, i.e. in direct and lateral projection. However, radiography of the paranasal sinuses does not always give an objective assessment of the state of bone fragments. Especially with injuries of the middle zone of the facial skeleton, radiography is not always informative, due to the layering of the bone structures of the craniofacial complex.

Therefore, on the next day after the admission of patients to the hospital, we performed CT or MSCT studies. X-ray of the paranasal sinuses was performed in (n=37; 26.5%) patients.

CT of the SNP was performed in (n=41; 28.7%) patients, MSCT of the SNP in bone mode with three-dimensional reconstruction was performed in (n=64; 45.7%) patients.

However, radiography and CT of the SNPs reproduce the image in a two-dimensional plane, do not sufficiently determine the state of the walls of the SNPs, providing only indirect information about their condition: violation of the integrity of the infraorbital margin, darkening of the maxillary sinus, and in some cases blurred visualization of bone structures.

Conclusion. For an objective assessment of the volume, quantity and relative position of bone fragments of the walls of the SNP, the above methods of radiation diagnostics are not informative. To plan the surgical treatment of SNPs, we studied the 3D anatomy of SNPs. 3D anatomy of the SNP allowed us to diagnose the location of the injury, its nature, as well as visualization images in three planes.

REFERENCES

1. Sirko A. G., Pilipenko G. S., Tonchiev M. D. Surgical treatment of combat craniocerebral gunshot wounds combined with paranasal sinuses injury //Вісник проблем біології і медицини. – 2018. – Т. 2. – №. 4 (147). – С. 181-186.
2. Lacuata J. A. et al. Combined external and endoscopic transnasal approach with use of a diamond burr in the removal of a fishing harpoon hook traversing bilateral sphenoid sinuses in a 22-year-old man //BMJ Case Reports CP. – 2021. – Т. 14. – №. 5. – С. e239055.
3. Dimngel S. et al. A CLINICO-RADIOLOGICAL STUDY OF TRAUMATIC FRACTURES OF THE NOSE, THE PARANASAL SINUSES AND THE ZYGOMATIC BONE IN A TERTIARY CARE CENTRE //Int J Acad Med Pharm. – 2022. – Т. 4. – №. 4. – С. 26-32.

4. Gerard M. P. et al. Identification of a nasalconchal paranasal sinus in the white rhinoceros (*Ceratotherium simum*) //Journal of Zoo and Wildlife Medicine. – 2018. – Т. 49. – №. 2. – С. 444-449.
5. Tu Y., Hong H., Wu W. Orbital Infection Due to Medial Wall Fracture: Three Cases of Orbital Complications Caused by Paranasal Sinusitis Secondary to Medial Orbital Wall Fracture //Journal of Craniofacial Surgery. – 2021. – Т. 32. – №. 8. – С. e712-e716.
6. Pylypenko H. S., Sirko A. H., Botikov V. V. Surgical management of battle gunshot injuries to the dural venous sinuses, combined with brain injury: an analysis of series of observations //Запорожский медицинский журнал= Zaporozhye medical journal. – 2020. – Т. 22. – №. 1. – С. 54-59.
7. Kim H. et al. Three-dimensional orbital wall modeling using paranasal sinus segmentation //Journal of Cranio-Maxillofacial Surgery. – 2019. – Т. 47. – №. 6. – С. 959-967.