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• Septoplasty is one of the most common operations in otorhinolaryngology to treat the nasal obstruction caused by septal deviation for the last 158 years since Langebeck.
• various complications have been reported. Some of these complications are common, such as hemorrhage, hematoma, septal abscess, septal perforations, saddle nose, infection, and anosmia.

The rare complications are cavernous sinus thrombosis, meningitis, pneumoencephalos, subarachnoid hemorrhage, periorbital emphysema, and subdural and brain abscess.

Subarachnoid hemorrhage. This has been reported only once and was caused by the rupture of a basilar artery aneurysm after SMR, or as a result of traumatic injury to an intradural blood vessel. One should suspect subarachnoid hemorrhage after SMR when a patient develops headache associated with neck rigidity. Lumbar puncture would confirm the diagnosis.

Liuľko VK: Rupture of an aneurysm of the cerebral basilar artery after a submucosal resection of the nasal septum Zh Ushn Nas Gali Bolezr 2:78-79, 1979
Reported cases of carotid false aneurysm or caortid cavernous fistula from septoplasty........

Miller, a reporting on complications in 500 consecutive rhinoplasties and 650 consecutive nasal septal operations, remarks:

"Although there is mention in the literature {Chandler JR Iatrogenic cerebrospinal rhinorrhea: Its surgical repair}, the possibility of cerebrospinal rhinorrhea resulting from septoplastic or rhinoplastic procedures no actual case reports could be found and none occurred in [our] series."

• When and if a CSF leak occurs, it cannot be detected while the nose is packed for 24 to 48 hours after surgery. Following that period, the CSF leak, if still present, may be misinterpreted by the patient and physician as an expected nasal discharge which eventually may cease spontaneously.

Why CSF Rhinorrhea??

Insufficient anatomical knowledge

Improper techniques

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Proper Technique

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• CSF leak is mostly seen in anterior cranial fossa because the bony structures are very thin and dura is attached to the bone tightly. A small impact can cause fracture of the skull base leading to CSF leakage.
• On the vertical plane, levels of the ethmoid roof might be different on the right and left sides. The distance between the highest level of the ethmoid labyrinth and cribriform plate at anterior cranial fossa varies between 0.6 to 11.7 mm. From the floor of the nasal cavity to the cribriform plate, the distance is 38 to 52 mm.
• This information is important to realize during surgery because those anatomic variations can increase the risk of complications.
Mechanisms

Grasping and fracturing the perpendicular lamina to correct bony deviations, multidirectional forces are applied to perpendicular lamina and cribriform plate. The very thin cribriform plate can be broken by this maneuver.

Proper knowledge of anatomy and possible variations is essential. Instead of grasping and fracturing the perpendicular plate, using turbinate or septum scissors will prevent multidirectional force on cribriform plate.

T. Metin Onerci, MD, Keremettin Ayhan, MD, and Oguz Olguc, MD Two Consecutive Cases of Cerebrospinal Fluid Rhinorrhea After Septoplasty Operation American Journal of Otolaryngology, Vol 25, No 5 (September-October), 2004: pp 354-356
Our Case!!!!

• 38 Y/O that had septoplasty, then presented 3 days later by watery rhinorrhea from nose and polyuria, polydypesia that was catheterised for large urinary output.

• Patient was conscious without any signs of nasal bleeding or meningitis.
Post-operative CT

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Take Home Messages

• Septoplasty is a simple but highly technical procedure.

• Proper knowledge of surgical anatomy and proper techniques in dealing with bony part is crucial before doing septoplasty.

• Good quality CT nose and paranasal sinuses is not a luxurious investigation to avoid disaster in septoplasty.

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THANK YOU

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