

Sinusitis Orbital Complications

Classification: Simple and Practical Answers

Classifications for acute sinusitis orbital complications have been characterized by incomplete theories and, often times, misaligned with anatomical principles. A correct classification for sinusitis complications is the foremost step towards a proper treatment of this set of clinical entities that bear a relatively high morbidity. In varied degrees, when not properly treated, sinusitis orbital complications expose patients to amaurosis, cavernous sinus thrombosis and many other intracranial complications.

Despite a significant drop in complications we have seen throughout the last century - thanks to early antibiotic treatment, sinusitis complications have a constant prevalence in pediatric patients, and a varied and significant incidence among immunosuppressed patients. The growing increase in patient survival for those who suffer bone marrow, lung and liver transplants - thanks to intense secondary immunosuppression, has made sinusitis complications an ever-present concern in the daily work of otorhinolaryngologists.

Since the first publication on this topic by Hubert in 1937, until current days, there are a number of misconceptions and much confusion insofar as clinical manifestations and complication extension correlations are concerned.

The first misconception was to state that cavernous sinus thrombosis would stem from orbital complications. If the cavernous sinus is a structure primarily located in the cranial vault, why should it be grouped within the set of orbital complications? Such question may even seem trivial at first, however this misconception remained undisputed since the famous publication by Chandler in 1970 and Maloney in 1987. It was only in 1997, with the work of Mortimore, that this complication was classified as an intracranial complication, and not orbital.

Nonetheless, both Maloney in 1987, and Mortimore in 1997 insisted in using the terminology pre-septal and post-septal to classify orbital complications.

By definition, the orbital septum is but an eversion of the periorbital bone tissue, representing an anatomical barrier, which separates the orbit from the upper and lower eyelids, making up the anterior border of the orbital cavity. Thus, if the orbit, by definition, is behind the septum, wouldn't it be a true incoherence to call it "pre-septal orbital complication"? This led us to conclude that the expression pre-septal should be used for eyelid disorders, and it is not adequate to describe orbital involvement. Thus, the terminology retroseptal and orbital can be considered synonymous.

Once these concepts of pre-septal and post-septal are well understood, we can extend this discussion to another controversy created by Mortimore's classification: Only the intrachanoal space is posterior to the orbital septum? From this last publication of 1997, post-septal or orbital complications are further broken down in intrachanoal and subperiosteal. The term subperiosteal abscess, as we see it, is very

accurate, encompassing abscesses within the space between the papyraceous wall and the periorbital space. The term intrachanoal is related to the space surrounded by the orbit's extrinsic muscles; extrachanoal is the space located between the cone and the periorbital space. In this classification there is no reference regarding the extrachanoal space, producing this misconception that within the retroseptal space there is only the intrachanoal space.

From the practical standpoint, in cases of subperiosteal abscess, besides this evidence of correlation between the papyraceous wall and the periorbital space, one can notice a smudging of the extrachanoal fat. Which would be the best classification for these cases? We believe that this situation is not present in any other classification.

Still regarding practical issues, often times it is difficult to tell an abscess from a phlegmon just by analyzing the CT scan. Nonetheless, such doubt should not be an obstacle for the decision of which is the best treatment approach when we face a case of sinusitis orbital complication. Proper treatment stems from adequate clinical history, physical, endoscopic examination and a lot of experience in the interpretation of paranasal sinuses CT scans.

It is not easy to classify sinusitis orbital complications and, unfortunately, there are still a number of incoherencies. In this issue, the paper called "Orbital Complications of Acute Sinusitis: A New Classification" points out many issues pertaining to many classification systems that have been described in the literature since 1937. This study, besides describing clearly and precisely the anatomical principles, which are commonly presented in a confusing manner, also submits some practical and simple suggestions based on an elaborate concept about the real information that can be extracted from a CT scan. Could a classification based on three simple items such as orbital cellulites, subperiosteal abscess and orbital abscess be practical, objective, and yet free from incoherencies and uncertainties? It is certain that this paper will help to answer this and other questions mentioned in this editorial.

Disagreements and the constant search for more detailed explanations, supported by a constant updating on technological breakthroughs represent the cornerstone to establish a critical thinking for physicians inside or outside an academic institution. Thanks to this questioning and dynamic spirit, Brazilian Otorhinolaryngology has been evolving and increasingly gaining national and international appreciation.

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