

# Deadly Triangle: A Case of Septic Cavernous Sinus Thrombosis

*Nithyah Paramasivam, Shaleni Jaganathan*

*Department of Emergency and Trauma, Hospital Tuanku Ja'afar, Seremban*

## INTRODUCTION

The "Danger triangle of the face" which extends from the angles of the mouth to the bridge of the nose, is dangerous for anatomic and physiologic reasons. Septic Cavernous Sinus Thrombosis (SCST) commonly arises from infections from the paranasal sinuses, area around the nose, eyes, and mouth. Infections from this area can travel through the skin and pterygoid plexus, a valveless venous system that connects with the cavernous sinus.

## CASE DESCRIPTION

51-year-old Indonesian male with underlying hypertension presented with rhinitis, blurry vision, left anterior auricular swelling, left side facial numbness and pain for 1 week. Examination revealed loss of wrinkle over left forehead, muscle weakness of left eye, drooping angle of mouth and loss of nasolabial fold. No perception of light over left eye with complete ptosis and tense globe. Cranial nerves II-VII were also impaired. Contrast Enhanced Computed Tomography (CECT) and CT Venography Brain showed Left Cavernous Sinus Thrombosis, mucosa thickening with effacement of nasopharyngeal wall, left maxillary, ethmoidal, sphenoidal sinuses and fossa of Rossemuller. CECT Orbit showed left ophthalmic artery occlusion with complete ophthalmoplegia. This case was treated with intravenous broad-spectrum antibiotic. Patient eventually deteriorated in ward and succumbed to complication of the disease.

## DISCUSSION

SCST is a rare, life-threatening condition caused by infection spreading from the danger area of face to the cavernous sinus causing clotting in the confined sinus space. The diagnosis relies mainly on early clinical evaluation, with Magnetic resonance imaging (MRI) being the most sensitive diagnostic tool providing better resolution than CT, though CECT is often preferred for its accessibility and effectiveness in evaluating bone integrity and potential infections whereby *Staphylococcus aureus* being the most common pathogen. Hence treatment requires prompt broad spectrum antibiotic administration covering gram-positive, gram-negative, and anaerobic bacteria.

## CONCLUSION

The recognition of SCST requires a high level of clinical suspicion and confirmation through imaging. Prompt diagnosis, coupled with extended intravenous antibiotic therapy, is crucial for attaining optimal clinical outcomes.

## REFERENCES

Matthew TJH, Hussein A. Atypical Cavernous Sinus Thrombosis: A Diagnosis Challenge and Dilemma. *Cureus*. 2018 Dec 04;10(12):e3685

