



## Headache Induced by Aeroplane Descent

**Kuljeet Singh Anand<sup>1\*</sup>, Vikas Dhikav<sup>2</sup> and Abhishek Juneja<sup>3</sup>**

<sup>1</sup>Professor, Department of Neurology, Dr RML Hospital, Delhi, India

<sup>2</sup>Research Scientist, Indian Council of Medical Research, India

<sup>3</sup>Consultant Neurologist, Maharaja Agrasen Hospital, New Delhi, India

**\*Corresponding Author:** Kuljeet Singh Anand, Professor, Department of Neurology, Dr RML Hospital, Delhi, India.

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### Abstract

Aeroplane induced headaches are uncommon and rarely encountered. A 27-year-old right handed male, not a known diabetic or hypertensive and a frequent flier presented with a history of repeated episodes of severe headache upon aeroplane descent for four years. The pain is localized to the left supra-orbital region lasting for 8-10 minutes, associated with watering in left eye without redness. General physical and systemic examinations were unremarkable. Magnetic Resonance (MR) imaging and MR Angiography of brain was unremarkable. He was advised tablet nimesulide (mouth dissolving), 100 mg upon premonition of pain to which he responded favourably.

**Keywords:** Aeroplane; Headache; Aeroplane Descent

### Introduction

Aeroplane induced headaches are uncommon and rarely encountered. Atkinson and Lee first reported in 2004 a 28-year-old male patient with intense frontal and retro orbital headache during airplane flights [1]. We report case of a young male with headache induced by aeroplane descent.

### Case Report

A 27-year-old right handed male, not a known diabetic or hypertensive and a frequent flier presented with a history of repeated episodes of severe headache upon aeroplane descent for four years. He experiences an aura in the form of mild pain before the landing sequence of aeroplane starts and then pain gradually increases in intensity and becomes unbearably severe. The pain is localized to the left supra-orbital region lasting for 8-10 minutes, associated with watering in left eye without redness. The headache is severe in intensity and stabbing in character. There was no ac-

companying nausea, vomiting, photophobia or phonophobia. Headache subsides gradually over 3-5 minutes upon grounding. There was no personal or family history of migraine. There was no history of chronic rhino-sinusitis, deviated nasal septum or chronic suppurative otitis media. General physical and systemic examinations were unremarkable. The detailed oto-rhinological, ophthalmological and neurological examinations were normal. The routine haematological and biochemical investigations were normal. A plain skiagram of paranasal sinus revealed no radiological abnormality. Magnetic Resonance (MR) imaging and MR Angiography of brain was unremarkable. He was advised tablet nimesulide (mouth dissolving), 100 mg upon premonition of pain to which he responded favourably.

### Discussion and Conclusion

Aeroplane associated headaches could occur during the take offs, throughout the course of flight or during the aircraft descent.

Titlić and Demarin reported two such cases in which headache was encountered during take off or alternatively, throughout the flight [1,2]. Berilgen and Mungen described six cases where the headache occurred during take-off or landing [3]. The attacks lasted for 15-20 minutes and recovered spontaneously without accompanying signs. The pain was typically localized to left side in orbital or supra-orbital region, and excruciatingly severe in intensity. Later, reports of similar nature appeared in literature [4-9]. A preliminary criterion for diagnosis of this type of unusual headache has been proposed:

- At least 2 episodes fulfilling B, C and D.
- Pain lasting < 20 min during airplane flight having at least two of the features given below:
  - Severe intensity
  - Pulsating or stabbing quality
  - Strict unilateral location
  - Peri- or retro-orbital location, sometimes with involvement of frontal locations
- No additional symptoms (rarely mild rhinorrhea, tearing or face edema)
- No history or findings of other disorders that could account for the symptoms.

The proposed mechanisms for aeroplane induced headaches could be the pressure changes in nasal mucous membranes, sinuses and/or deviation of nasal septum. Rise of atmospheric pressure in the aeroplane and barotraumas resulting into activation of trigemino-vascular system is thought to play a major role in the occurrence of this type of headache [1,2]. It has also been suggested that the baro-trauma during landing and take-off could affect ethmoidal branch of ophthalmic division of trigeminal nerve manifesting as supra-orbital pain [2]. Despite the various proposed hypothesis, the etiopathogenesis of airplane flight related headache is largely unknown.

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