

1.Ambito del Project work: CEFALEE E SONNO

2.titolo del *project work*: possibile effetto sinergico di OSAS e PFO nella CEFALEA A GRAPPOLO (CH): studio comparativo con soggetti non cefalgici e soggetti con altre cefalee primarie.

3.responsabile del project work: Lovati Carlo

4.sede ove verrà promosso il progetto di studio: (U.O. di Neurologia, Centro per lo studio e il trattamento delle cefalee, ASST FBF-Sacco, Ospedale Luigi Sacco, Milano, Cattedra di Neurologia, Università di Milano)

5.contatti: e-mail: carlo.lovati@tiscalinet.it , cellulare: 347 9040691.

6.estensione del progetto: nazionale o regionale

7.draft del progetto di studio (comparativo caso-controllo, multicentrico):

presupposti:

- Solo pochi lavori sono disponibili sulla relazione CH - PFO e CH - OSAS.
- I pochi dati disponibili (vedi ref.) indicano aumentata prevalenza di PFO e di OSAS in soggetti CH.
- Mancano studi combinati delle due condizioni.
- Entrambe le condizioni possono concorrere a ridurre la SaO₂, uno facendo bypassare una quota ematica dal circolo polmonare, l'altra riducendo la ventilazione alveolare.
- La risposta alla O₂ terapia in acuto concorderebbe con una ipossiemia eventualmente connessa, almeno in una certa quota di pazienti, alla combinazione delle suddette condizioni.
- L'effetto delle OSAS sulla SaO₂ è prevalentemente notturno come anche gli attacchi di CH.
- OSAS è prevalente nel sesso maschile con un rapporto M/F analogo alla distribuzione della CH.

obiettivi primari e secondari,

valutare comparativamente mediante TCD e PSG la prevalenza di PFO, RLS e OSAS (AHI e T90) in CH episodici , CH cronici, CTRL (controlli sani, MO e MA)

tipo di analisi statistica;

test χ^2 per il confronto della frequenza di PFO e OSAS nei diversi gruppi

test T di Student per comparazione SaO₂ medie e AHI medio nei diversi gruppi

8.time table: durata dello studio (6 mesi a partire da luglio 2017), presentazione dei risultati preliminari prevista per febbraio 2018.

References

J Headache Pain. 2005 Sep;6(4):328-30.

Prevalence of patent foramen ovale in a large series of patients with migraine with aura, migraine without aura and cluster headache, and relationship with clinical phenotype.

Dalla Volta G, Guindani M, Zavarise P, Griffini S, Pezzini A, Padovani A.

Abstract

A relationship between migraine and patent foramen ovale (PFO) has been observed in relatively small series of patients so far. Furthermore, the exact mechanism underlying such an association remains unknown. In the present study we determined the prevalence of PFO by contrast-enhanced transcranial Doppler (TCD) in a group of 260 patients with migraine with aura (MA+), 74 patients with migraine without aura (MA-), and 38 patients with cluster headache (CH). One-hundred-sixty-one MA+subjects (61.9%), 12 MA-subjects (16.2%), and 14 CH-subjects (36.8%) were PFO-carriers. The association was independent on the frequency of migraine attacks and complexity of aura. Finally, among the 15 patients who had a history of at least one migraine attack occurring during a Valsalva maneuver only one subject turned out to be PFO-carrier. Our findings confirm previous observations of a link between MA+, CH, and PFO. They also suggest that such an association is independent on migraine clinical phenotype and is probably unrelated to the pathogenic mechanism of paradoxical embolism.

PMID: 16362702 PMCID: PMC3452039 DOI: 10.1007/s10194-005-0223-9

Curr Pain Headache Rep. 2006 Apr;10(2):142-6.

Cluster headache and the heart.

Loder E.

Abstract

Cluster headache is a rare but debilitating recurrent headache disorder. It is most common in middle-aged and older men, a group with a high prevalence of cardiovascular disease. This article reviews available information regarding the association of cluster headache and the heart in three selected areas: 1) the known effects of cluster headache on cardiovascular parameters such as heart rate and rhythm and blood pressure; 2) the prevalence of cardiac risk factors in subjects with cluster headache; and 3) the connection between patent foramen ovale and cluster headache. Some evidence suggests that cardiovascular risk factors, especially cigarette smoking, may be more common in cluster headache sufferers. There also is evidence that disturbances of autonomic function or certain structural cardiac anomalies may be more common in cluster headache sufferers. In addition, a number of important treatment options for cluster headache have effects on cardiovascular function that must be considered in planning therapy. The implications of these findings for clinical practice are discussed.

PMID: 16539868

J Headache Pain. 2005 Sep;6(4):244-6.

Prevalence of right-to-left shunt in patients with cluster headache.

Morelli N, Gori S, Cafforio G, Gallerini S, Baldacci F, Orlandi G, Murri L.

Abstract

Recent investigations documented that the prevalence of right-to-left shunt (RLS) in patients with migraine with aura (MA) is significantly higher than in healthy controls and similar to prevalence of RLS in young patients with cryptogenic stroke (CS). Nevertheless, little data are available in the literature about RLS prevalence in the other forms of primary headache. The aim of this study was to investigate the occurrence of RLS in patients with cluster headache (CH). We enrolled 30 consecutive patients with CH diagnosis according to the IHS criteria and 40 controls. RLS was assessed with bilateral transcranial Doppler contrast (TCDc) monitoring of middle cerebral arteries. Eleven patients (37%) resulted positive to TCDc monitoring for evaluation of RLS. These data show that the presence of RLS in this group is more prevalent than in the general population and similar to that found in MA and in CS.

PMID: 16362676 PMCID: PMC3452021 DOI: 10.1007/s10194-005-0197-7

Headache. 2004 Jun;44(6):607-10.

Obstructive sleep apnea and cluster headache.

Graff-Radford SB, Newman A.

Abstract

A patient with cluster headache often wakes from sleep. The relationship to sleep apnea has been described. This study sought to confirm the relationship cluster may have with sleep apnea. **METHODS:** Thirty-nine consecutive patients diagnosed with episodic cluster headache according to the International Headache Society (IHS) criteria were sent for polysomnographic studies. All patients were in an active phase when they were in the study. Patients were told of the proposed relationship and were allowed to choose a sleep laboratory close to their home. **RESULTS:** Thirty-one patients with episodic cluster headache completed an overnight polysomnographic study. Twenty-three were male and eight female. The average age was 51 years (range 33 to 78 years). The average weight was 173 pounds (range 117 to 260 pounds). A total of 80.64% had sleep apnea (25/31). Average respiratory depression index (RDI) was 19.0 (SD 14.6) with 6 patients having no apnea, 10 having mild, 11 having moderate, and 4 having severe apnea (RDI < 5 = none; RDI 5 to 20 mild; RDI 20 to 40 moderate; RDI > 40 severe). Oxygen saturation decreased on average to 88.4% SD 4.5. Sleep efficiency was 76.2% (SD 13.4). **CONCLUSIONS:** The data closely approximate those of Chervin et al, where 80% had RDI > 5. The relationship sleep apnea has in the perpetuation or precipitation of cluster headache is still to be determined. There are some reports that treatment stops the cluster but there is no prospective study. The high incidence (80.64%) seen in this population suggests the cluster patient should receive a sleep evaluation and perhaps intervention with continuous positive airway pressure (CPAP) or an appropriate dental device.

PMID: 15186306 DOI: 10.1111/j.1526-4610.2004.446010.x