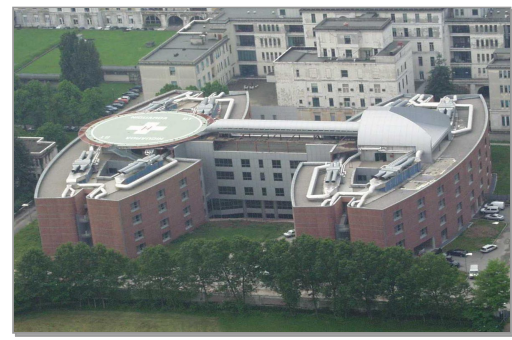


EARLY EFFICACY OF EPIDURAL BLOOD PATCH (EBP) IN CHRONIC SPONTANEOUS INTRACRANIAL HYPOTENSION (SIH)

*E. Ferrante, *F. Rubino, *V. Prone, #M.M. Ferrante, *A. Agostoni

*Neurosciences Department and ^ Anaesthesiology Department, Niguarda Ca' Granda Hospital Milan – Italy #Anaesthesiology Department, Insubria University, Varese -Italy

e-mail: enricoferrante@libero.it



OBJECTIVE to investigate the early efficacy of EPB also in chronic SIH.

CASE REPORT In December 2011 a 16 years old girl presented an acute severe orthostatic headache (OH) with nausea, blurred vision and imbalance. A brain MRI showed cerebellar tonsils ptosis. The girl was often forced to stay in bed for the severe OH. A tension type headache diagnosis was made. Amitriptyline was prescribed without benefit. In 2013 a new brain MRI showed severe cerebellar tonsils ptosis of over 2 cm similar to Arnold-Chiari malformation (ACM) type 1 and diffuse pachymeningeal enhancement (DPE). After bed rest and overhydration the symptoms did not improve. In February 2014 in another Neurological Department an lumbar EPB with 5 ml of blood and fibrin glue was performed without benefit. In May 2016 she was evaluated in our Department. The brain MRI with CSF circulation study and the spinal MRI showed important cerebellar tonsils ptosis, very slight DPE, C7-D2 anterior epidural CSF collection, C4-C7 syringomyelia and poor CSF circulation at the level of the cisterna magna posteriorly. The OH was moderate and a lumbar puncture showed a low CSF opening pressure in lateral position (5 cmH2O). An lumbar EPB with 35 ml of blood and 5 ml of iopamidol was performed with immediately OH resolution. After 1 month of follow-up she was asymptomatic.

DISCUSSION SIH is characterized by OH, low CSF pressure and DPE at brain MRI. SIH can have a spontaneous resolution with conservative treatment (bed rest and overhydration) in several days or even months. If conservative treatment is ineffective EBP is indicated, even if the actual orientation is to perform early EBP to avoid prolonged disability, social costs for work absence and mostly serious complications risk (subdural hematoma, venous sinuses thrombosis and ideo-motor slowdown until coma). In literature there are not describe cases of chronic SIH. Our case is a chronic SIH with duration of even 4.5 years that it might have caused a serious brain sagging with CSF circulation alteration similar to ACM type 1. Probably the first EPB was inefficacy for the small blood amount used. In the last brain MRI the DPE was very slight and also the OH became moderate probably because it was reached a balance between venous vasodilatation, low CSF pressure (Monro-Kellie hypothesis) and traction of pain-sensitive structures.

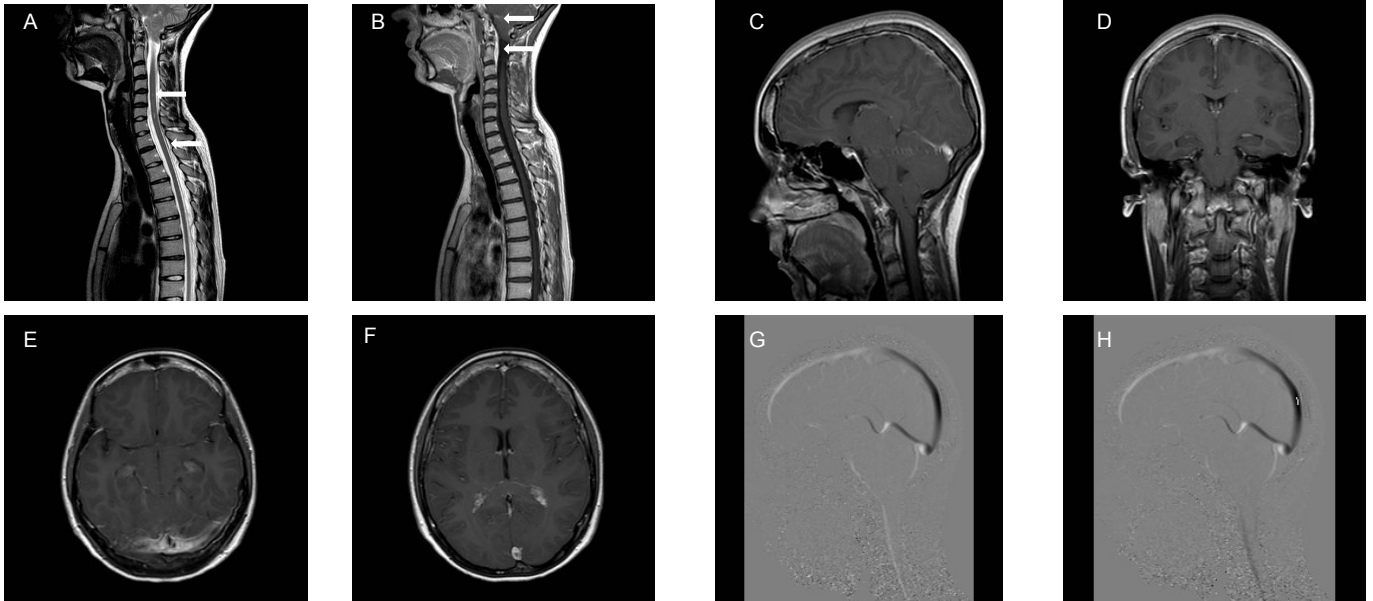


Fig. A: T2 spinal MRI shows C7-D2 anterior epidural CSF collection

Fig. B: T1 Gd spinal MRI shows cervical epidural venous plexus engorgement

Fig. C-D: T1 Gd sagittal and coronal MRI show brain sagging with severe cerebellar tonsils ptosis similar to ACM type 1 and thin DPE

Fig. E-F: T1 axial brain MRI show thin DPE, small ventricles and small size of basal cisterns

Fig. G-H: Brain MRI with liquor circulation study shows poor CSF circulation at the level of the cisterna magna posteriorly

CONCLUSIONS this case report shows the early efficacy of EPB also in chronic SIH as in acute SIH case.

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