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THE BRAIN PERFUSION SPECT WITH 99mTc-HMPAO IN THE FOLLOW-UP OF PATIENTS WITH AUTOIMMUNE VASCULITIS

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BACKGROUND-AIM

A possible complication of several autoimmune systemic vasculitis is the central nervous system (CNS) involvement. Prompt diagnosis and treatment of this complication could significantly alleviate neurological symptoms disease-related and improve prognosis. SPECT is a reliable diagnostic tool in revealing damage to CNS caused by vasculitis and is more sensitive than MRI. Furthermore, it may provide additional information on follow-up of patients, especially for monitoring disease severity and treatment. The purpose of this study was to monitor the treatment of vasculitis with brain SPECT, in order to treat only the patients who respond to therapy, thus avoiding the side effects to those who do not respond.

METHODS

20 patients (2 male and 18 female) suffering from systemic lupus erythematosus (SLE) (n = 5), Behcet's disease (BD) (n = 5), undifferentiated vasculitis (UV) (n = 5), Sjogren's syndrome (SS) (n = 5) were included in the study. All patients underwent a wide neurological anamnestic investigation, a complete objective neurological examination and single photon emission tomography (SPECT) of the brain with 99mTc-HMPAO. The brain SPECT was then repeated after appropriate medical treatment and the data of the second test were compared with those of the first. The neurological and neuropsychiatric follow-up was performed at six months after the start of the treatment.

RESULTS

Overall, the differences between the scintigraphic results obtained after and before the medical treatment indicated a statistically significant increase of the cerebral perfusion. In 19 of the 20 R.O.I. studied the difference between pre- and post-treatment percentages had negative sign, indicating a worsening of cerebral perfusion. This latter event has occurred 6 times (5 in the same patients) in the UV, 10 times (8 in the same patients) in the SLE, never in BD and 3 times (2 in the same patient) in the SS.

CONCLUSION

The reported results seem to indicate the possibility of identifying, with the brain SPECT, those patients who do not respond to therapy that is, those patients who showed a cerebral perfusion unchanged or worsened after therapy in the majority of brain regions studied. In the BD cerebral areas with a worsening of the cerebral blood flow after therapy have not been found and the improvement of perfusion registered with brain SPECT reach the highest value observed in the present study (5%).