

COMPUTER TOMOGRAPHIC FINDINGS IN NEUROSYPHILIS

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Computer tomographic features of the brain in 2 cases of neurosyphilis are described. Less prominence of the cortical sulci suggesting cortical atrophy was the predominant feature in a case of general paralysis of insane. Diffuse, irregular, non-enhancing, low-attenuated area in the cortical and subcortical region of the right temporoparietal lobe of a patient with vascular syphilis, suggested infarction of the brain.

Key Words : Computer tomographic scanning, Neurosyphilis

Introduction

Syphilis still continues to be one of the common sexually transmitted diseases in India. Missing the diagnosis and incomplete treatment of early syphilis have resulted in an increase in incidence of neurosyphilis in recent years. The diagnosis of neurosyphilis depends mainly on blood VDRL test and CSF study. Only a little is known about the computer tomographic (CT) features of the brain in neurosyphilis. Here we report CT scan features in 2 cases of neurosyphilis.

Case Reports

Case 1 : A 49-year-old man was brought with history of insomnia and gradual deterioration of behaviour, of 2 years duration. He became unusually euphoric and began to lose concentration in his work as a teacher. There was a vague history of having a genital sore 20 years back that developed following sexual intercourse with a prostitute. No one in his family has had any psychiatric illness. There was no history of any genital ulcer

or abortion in his wife.

The patient was disorientated (spatial) with loss of memory of recent past events. He was suggestible and euphoric. There was dysarthria with faulty enunciation and slurring of words. His handwriting was normal. All cranial nerve and sensory system were normal. The ankle and knee jerks on both sides were exaggerated. The abdominal reflexes were absent; the plantar response being extensor.

Routine laboratory tests on blood and urine were normal. The blood sugar, urea, SGPT, and serum cholesterol levels were within normal limits. Blood VDRL was reactive 1:32 and TPHA test was positive. The CSF VDRL was positive and the CSF contained lymphocytes 60/cmm and protein 30 mg%. X-ray of the chest and ECG were normal. Plain and contrast computer tomographic scanning of the brain revealed normal CT density of cerebral parenchyma. But the cortical sulci on both sides, particularly in the frontal area, were less prominent (Fig. 1). The patient was treated with inj. procaine penicillin 6 lakhs units IM daily for 20 days. Even at the end of 1 year of follow up, the psychiatric symptoms persisted.

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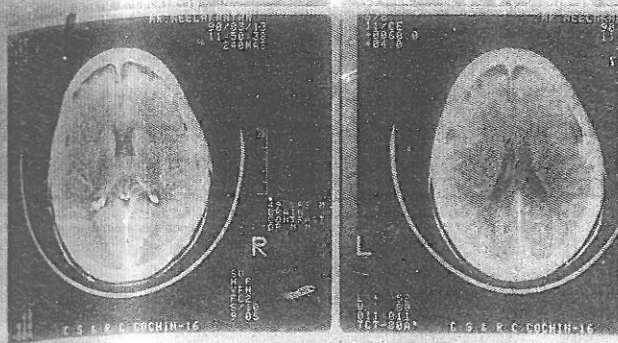


Fig. 1. CT scanning of the brain. Note less prominence of the cortical sulci, particularly in the frontal region.

levels were within normal limits. CSF VDRL was positive and CSF contained lymphocytes 200/cmm and protein 30 mg%. X-ray of the chest was normal. The CT scan of the brain revealed a diffuse, irregular, non-haemorrhagic, non-enhancing, low-attenuated area in the cortical and subcortical region of the right temporoparietal lobe. The right lateral ventricle was partially compressed (Figs. 2 & 3).

though the blood VDRL titre had fallen to 1:8. There was no clinical or serologic evidence of syphilis in his wife.

Case 2 : A 35-year-old man presented with weakness of the left upper limb and left side of the face of 1 month duration. He gave history of a 'genital sore' 7 years back, that developed following an unprotected sexual intercourse with a prostitute. It healed spontaneously in 5 weeks. Examination revealed monoplegia affecting the left upper limb with spasticity, hypertonicity and exaggeration of deep tendon reflexes. There was upper motor neuron type of facial palsy on the left side. The abdominal reflexes were absent; the plantar response being extensor. All cranial nerves were normal. The patient was slightly disorientated (spatial) with dyscalculia apraxia, dyslexia and dysphasia. His BP was 120/80mm Hg. All other systems were clinically normal.

Routine laboratory tests on blood and urine were normal. Serum cholesterol, SGPT, blood sugar and urea

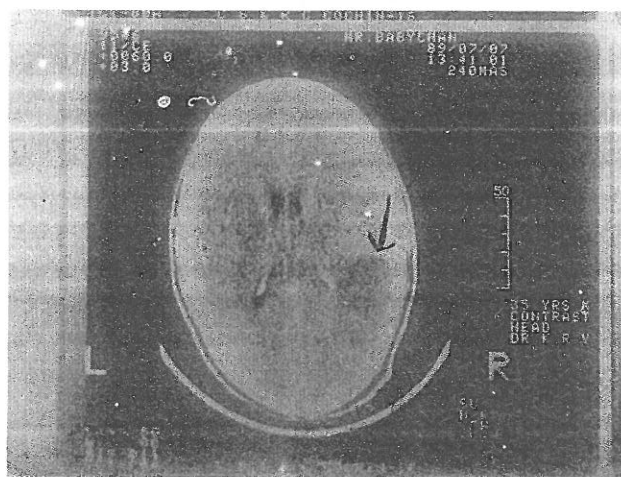
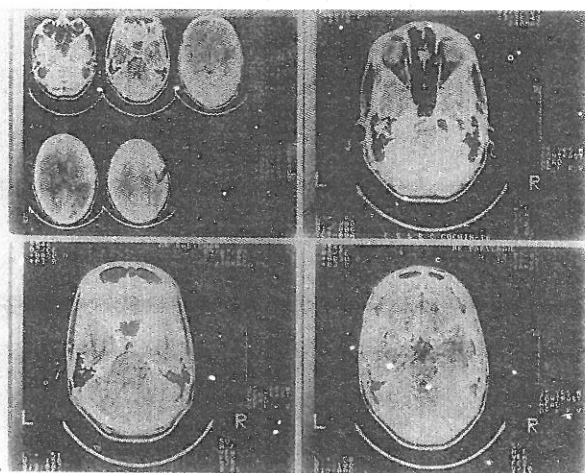


Fig. 2 & 3. Arrows show diffuse, irregular, non haemorrhagic, non-enhancing, low-attenuated area in the cortical and subcortical region of the right temporo-parietal lobe. The right lateral ventricle is partially compressed.

The patient was treated with inj. procaine penicillin 6 lakhs units IM daily for 20 days. There was a gradual fall in blood reaginic titer and when seen after 6 months, it was reactive 1:8. A repeat CSF study at this time showed only 3 cells/cmm, though the CSF VDRL was still positive. There was gradual but only partial remission for monoplegia and facial palsy, though the higher functions of the brain improved very much. There was no clinical or serological evidence of syphilis in his wife.

Comments

The neurologic signs and symptoms in the first case suggested a clinical diagnosis of general paralysis of insane (GPI), which was further confirmed by the results of the tests on blood and CSF. The psychosis in GPI may be grandiose, manic or demented type.¹ Our patient was euphoric suggesting grandiose type of GPI. In the second case, though neurologic signs were not specific for syphilis, a reactive blood and CSF VDRL, increased cells in CSF, and therapeutic

response to penicillin suggested syphilitic aetiology.

Holland et al reported the CT scan findings in 3 patients with meningovascular syphilis.² Less prominence of the cortical sulci in our first case suggested cortical atrophy. Severe affection of the frontal area of the brain in this atrophic process explains the gross psychiatric manifestations he developed. In the second case, the CT findings are not specific for neurosyphilis. The low attenuated area in the cortical and subcortical area suggested infarction. Involvement of the middle cerebral artery and its branches may result in such an extensive infarction in this region of the brain. The CT scan thus helps to diagnose GPI and to know the extension of atrophy or infarction caused by syphilitic process.

References

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