

Gerstman's Syndrome in a Patient with Non insulin Dependent Diabetes Mellitus*

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Cerebrovascular disease, the third leading cause of death after heart disease and cancer in developed countries and has an overall prevalence of 794 per 100,000[1]. This is caused by severe pathological processes involving blood vessels of the brain. Stroke occurs as an acute neurological injury occurring as a result of one of the pathological processes and manifests either as brain infarction or haemorrhage. The primary risk factors for stroke include hypertension, hypercholesterolemia and smoking. Several large population studies have shown an increase in the prevalence of stroke in the known diabetic population, undiagnosed diabetic population and those with glucose intolerance[2,3]. In this report we describe a 55 year old diabetic male who developed a rare neurological deficit, Gerstman's syndrome, as a result of left sided parietal lobe haemorrhage.

A 55 year old male was admitted with history of vomiting, irritability and acute confusional state of two days duration. He had essential hypertension for 10 years controlled on enalapril 5 mgs daily and non-insulin dependent diabetes mellitus (NIDDM) for 6 years controlled on 7.5 mgs of glibenclamide per day. Two days prior to the onset of sickness patient was apparently well and took his dinner normally and offered prayers before going to bed. Two hours later he woke up and his wife noticed that he was talking irrelevant. Patient was irritable and showed no interest in his surroundings. He vomitted twice during night, vomitus containing food particles. He had no convulsions, headache, weakness of any part of body, disturbance of vision, bowel or bladder incontinence. There was no history of trauma to head or previous psychiatric illness. Examination on reception revealed an emotionally labile, irritable middle aged male. His BP was 160/102 mm Hg in supine position. Examination of chest, cardiovascular system and abdomen was normal. Nervous system examination revealed grossly impaired comprehension. His repetition was poor even though his word output was fluent and articulation normal. He had parrot's speech with nominal aphasia. He had acalculia, alexia and agraphia. He had no sensory inattention or frontal lobe signs. There was no focal neurodeficit. Tendon reflexes were normally elicited and he did not have

any cerebellar signs. There were no signs of meningeal irritation and examination of optic fundi did not reveal any abnormality. Investigations revealed a normal blood count, normal serum creatinine and electrolytes, blood glucose random was 148 mg/dl. X-ray chest and electrocardiograph were essentially normal. Computed tomography of brain revealed a hyperdense area of congealed blood values (Haematoma) (Fig 1). A diagnosis of extended Gerstman's syndrome due to left parietal lobe haemorrhage was made, patient received insulin, enalapril and pentoxifyline. He showed significant improvement in the next few weeks. A repeat CT done 8 weeks later showed marked resolution leaving behind an area of gliosis (Fig 2).

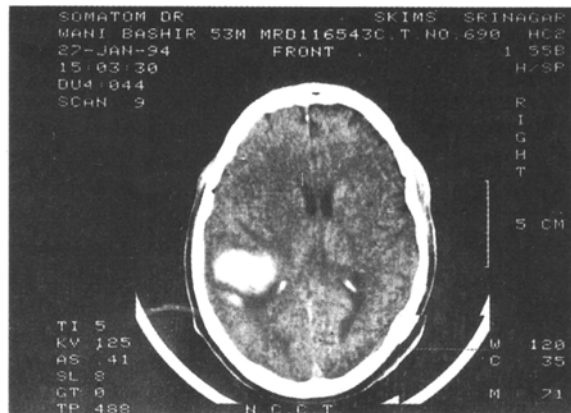


Fig 1: CT scan of brain showing an area of haemorrhage in the left parietal lobe.

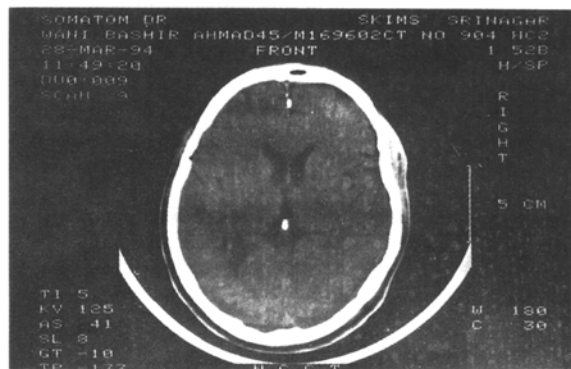


Fig. 2: Repeat CT scan after 8 week, complete resolution of haemorrhage with gliosis

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DISCUSSION

Stroke is an important cause of disability particularly in the elderly. Pathological studies indicate that 80-85% of strokes are due to cerebral infarction, and 15-20% are caused by haemorrhage. The commonest underlying disorder responsible for stroke is atherosclerosis – a pathological process enhanced by diabetes and well as hypertension. Our patient who was diabetic and hypertensive for long duration presented with sudden onset nominal aphasia, acalculia, alexia, agraphia and in view of CT finding a diagnosis of Gerstman's syndrome due to haemorrhage in the left parietal lobe was made.

The prevalence of stroke in diabetics varies from 6.1% to 21.1% (2-4). The risk of stroke, (especially thromboembolic) in diabetics is two to six times that of non-diabetic population[2,5,6]. Hypertension is the strongest single risk factor for stroke in general population[7]. Diabetics are at increased risk of hypertension and stroke [8,9]. Investigations in eastern Finland and Hawaii[10, 11] concluded that diabetes confers an excess risk of stroke independent of blood pressure. However, the researchers in the Rochester Epidemiology Project concluded that hypertension entirely explains the excess rise of stroke in diabetic population[12]. In an earlier study from our centre we found we found concomitant hypertension in 66.6% of diabetic patients with stroke, compared to 50.8% of diabetic population without neurological complications; we also observed significantly higher mean fasting blood glucose levels in diabetic patients with stroke compared to those without neurological problems[13]. Hyperglycemia in stroke patients has been shown to result in greater mortality[5, 6]. Better metabolic control and adequate control of hypertension is required to reduce the incidence of stroke in every increasing diabetic population.

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