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CASE STUDY - BRAIN ABSCESS: FAILURE TO FOLLOW UP ALL SYMPTOMS

BACKGROUND

A 40 year old Order Picker working nights experienced tingling in the left hand. At about 2am he became unsteady on his feet, before collapsing onto a chair and then falling unconscious on the floor. He lost consciousness for about 25 minutes before having generalised shaking which lasted a few minutes and waking up very confused. The Ambulance was called and the initial Glasgow coma score was good - 14/15 and 15/15, although our patient still complained of headache.

On arrival at A&E our patient was triaged at 4:05am and 45 minutes later seen by the Duty Senior House Officer. The above history was noted and there was no complaining of chest pain, difficulty breathing, palpitations or irregular heart beat. There was no previous heart beat problems, history of vomiting, tongue biting or incontinence. There was history however of headaches - 7 days, frontal, no nausea or photophobia. Symptoms of meningitis were excluded although there was no examination of cranial nerves. An ECG revealed atrial fibrillation with fast ventricular response rate around 140/minutes. The decision was to admit our patient but to forward onto Medical Assessment Unit.

MEDICAL ASSESSMENT UNIT

General Physicians there noted the headache the day before at 10:30pm with some tingling in the left hand. Since admission to A&E our patient was complaining of mild headache. The last few days he had suffered from a headache but no meningitis symptoms. The Summary was fast atrial fibrillation and the cause was secondary to infection. Usual tests and examinations were carried out and the white cell count was found to be 20.9 with neutrophils 18.8 and with CK (Creatine kinase) 353, (normal 25-200). Later that night, on the first day of admission, the Consultant was asked to review our Patient who was now complaining of pains in both thighs for 3 weeks, feeling as though he had run 20 miles.

CARDIOLOGY

Our Patient moved from MAU into the Cardiology Unit with a diagnosis of Fast atrial fibrillation. He felt well in himself, although had been complaining of headache for most of the day. Nursing score marked 9 as a risk of falling. The following day there were no complaints and the plan was to send follow up at home and he was discharged at 4:15pm.



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DISCUSSION

Our Patient was ultimately diagnosed with a cerebral abscess. This is not an easy diagnosis to make. It produces a space occupying brain lesion and often raised intra-cranial pressure. The commonest symptom however is headaches, then fits or seizures. Focal signs in the limbs are late and papilloedema (swollen optic nerve heads) infrequent, although visual field defects are often noted.

There, whilst meningitis symptoms were looked for, no other form of brain infection was considered. Later, insufficient attention was paid to the information provided by those accompanying our Patient and our Patient himself. The combination of loss of consciousness, shaking limbs and unsteadiness on his feet and previous headaches should have lead to a concern about neurological condition and a CT scan being required.

This is particular so as a brain condition and atrial fibrillation can co-exist. A condition common to both is infection. The Patient had an extremely high white cell count and the raised CK (a nitrogenous enzyme compound found mainly in muscle tissue) level could reflect infection. This can cause myalgia pain and skeletal muscle damage and indeed our Patient did have thigh pain. Febril symptoms occurring before admission were not elucidated. Cardiology mentioned the fact that infection was probably responsible for the Fast atrial fibrillation.

Considering atrial fibrillation is uncommon at the age of 40 in the absence of any obvious structural heart disease, the raised metabolism of an infection would seem the most likely reason. Consequently, our Patient suffered from a blinkered approach. The history of preceding headaches, episode of loss of consciousness and shakes, the persisting headaches and rise in temperature whilst in hospital and the markers of inflammation should have all prompted the carrying out of a CT brain scan.

SUB-STANDARD CARE

A&E did the right thing, namely identified the need for further assessment and passed our patient onto the Medical Assessment Unit.

Whilst Cardiology should later have carried out a CT scan, MAU should also have done one and the failure to organise it was principally their fault. A CT scan arranged on his admission 9 days later did reveal the brain abscess. Even allowing however for the fact that non steroidal anti-inflammatory agents (previously taken) can mask and modify the clinical picture, nevertheless the CT scan was called for and it was sub-standard on the part of MAU not to organise one.



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CONSEQUENCES FOR OUR PATIENT

Our Patient ended up with visual field defects, cognitive deficits, depression and severe ongoing headaches. The likelihood is that these would have either been avoided completely or substantially avoided had a CT scan been undertaken and the brain lesion noted and attended to probably by way of surgical draining during the time of the first admission.

From a vision point of view our Patient is fully aware that he does not see things on his left hand side properly. There is a tendency to bump into doorways and into people in crowded situations. Crowds are now avoided. Stairs have to be tackled with the use of a handrail. Good vision, staring straight ahead, is possible, but turning the head or the eyes to look to the side causes our Patient to feel sick and dizzy. Concentration lasts for no more than a couple of minutes for reading or half an hour watching television. Driving is impossible.

Whilst visual acuity is satisfactory, visual field tests revealed disability. These tests measure the central part of the retina. It measures the sensitivity of the peripheral retina to light. The peripheral retina has a relatively poor acuity, but the visual field is vitality important for navigational vision. It would explain our Patient's disability. Employability was massively reduced.

CONCLUSION

It is basic medical student training to pay attention to ALL the Patient's symptoms. A very careful history-taking and attention paid subsequently to the detail can help reveal the true diagnosis. Here, despite passing through 3 Specialities, none of them got to the root explanation of all the symptoms, instead being sided tracked by only some of the symptoms. A&E were absolved because they referred on, (although they also did not contemplate an infection in the brain). The sad consequence is that a 40 year old man with a partner and young children is permanently disabled and registered blind.

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