Interesting Case

An unusual case of unresponsiveness post-renal transplant

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Case

A 67-year-old female, ex-psychiatric nurse was admitted to our transplant unit for a cadaveric renal transplant. End-stage renal failure (ESRF) was secondary to chronic pyelonephritis and nephrolithiasis, starting CAPD, and then converting to haemodialysis following a bout of fungal peritonitis. She had previously taken an overdose with a background history of a cyclothymic personality and depression, and experienced prolonged psychological difficulties accommodating to dialysis (with a diagnosis of adjustment disorder) and was prescribed paroxetine 20 mg daily.

After an uneventful cadaveric transplant she was difficult to rouse on withdrawal of sedation and was still drowsy on return to the ward, where her neurological status deteriorated over the following 48 h.

On examination she was normotensive, with low-grade pyrexia (37.4°C), but no demonstrable abnormalities of the cardiovascular, respiratory or abdominal systems. Neurological examination revealed no response to verbal or painful stimuli, although she was found to resist some passive limb movement and prevent her own arm falling on her face when released. Pupils were normal, with a conjugate gaze and unremarkable fundoscopy. Remaining neurological examination was normal.

Blood sugars were within the normal range; there was no evidence of opiate toxicity (having received only 9 mg morphine via PCAS over 48 h, pupils constricting normally, and demonstrating no response to naloxone). Trough cyclosporin levels were within the acceptable range. Since there was no primary graft function, haemodialysis was continued. An ultrasound of the transplant was normal. Blood cultures were persistently negative.

Cranial CT scan showed no evidence of hydrocephalus, intracranial haemorrhage or infarction. EEG showed no epileptiform activity. Examination of cerebrospinal fluid showed no xanthochromia, normal protein, glucose and cell count and was negative for herpes PCR and Indian ink stain.

Further questioning of the patient’s husband revealed that she had suffered a similar episode post-partum, from which she had made a spontaneous, full recovery over a period of days.

A diagnosis of conversion disorder (with hysterical mutism) secondary to renal transplantation was made. Supportive management was continued, with no further investigations carried out on the patient and her unresponsiveness not challenged further.

After 5 days, she recovered functionally, although was unable to recall any events of the post-operative period. A transplant biopsy showed acute tubular necrosis, and, within another week, good graft function was achieved.

Discussion

There are many causes of prolonged unresponsiveness after a general anaesthetic, including anaesthetic and post-operative medication, intracranial infarction and haemorrhage, infection, hypoxia and organ failure. A less publicized cause is a group of psychiatric states categorized as psychogenic coma (hysterical post-operative coma) including conversion disorder, factitious disorder and malingering.

Conversion disorder is defined in the DSM-IV as a somatoform disorder under the classification of hysterias, and is characterized by the demonstration of psychological conflict or stress through the manifestation of one or more neurological signs. It is not believed to be under the volition of the patient (unlike a factitious disorder) and there is no gain other than avoidance of the precipitant conflict.

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(unlike malingering). It occurs typically in patients with a previous psychiatric/psychological history, those with previous health care industry employment and has been reported to recur [1]. Neurological features include paralysis, ataxia, aphony, unconsciousness, blindness, deafness, sensory loss, pseudo-seizures and tremor [2]. Conversion disorder has been recognized for ~4000 years and was attributed to a ‘wandering uterus’ (hysteria) by Egyptians. Freud first labelled the condition ‘conversion disorder’. It is thought to be six times more common in women than men. Incidence is estimated to be ~20 per 100 000 population, and may account for up to 4% of UK neurology outpatient referrals.

Several cases of surgery related conversion disorder have been reported, usually in the field of anaesthesia and ENT surgery varying from aphony and facial nerve paralysis to coma (although many of these seem to be a ‘factitious’ state, serving to muddy the waters) [3,4]. A literature search on Medline and Embase revealed only one reference to this disorder in renal transplantation, from over 30 years ago [5].

The diagnosis is one of exclusion, the final diagnosis relying on the doctor’s experience of the condition [6]. Multiple investigations need be carried out to exclude significant organic pathology. Surprisingly the comatose patient fails to respond to any degree of painful stimuli, yet in the pathognomic ‘hand drop’ test (where the patients arm is lifted above their face and released) the falling arm gently comes to rest above the face or falls to one side, protecting the patient from pain or injury. This is in contrast to the absence of self-defence seen to extrinsic threats such as sternal pressure, lumbar puncture, etc. It is important not to threaten a patient’s dignity or extend the boundaries of justifiable painful stimulation in order to ascertain a diagnosis, and this may be through shielding the patients face with one’s hand in the ‘hand drop’ test. Curiously the demonstration of signs and symptoms seems to be consistent with the patient’s medical knowledge and awareness of neuroanatomy/physiology.

Recently, functional imaging (using positron emission tomography) has pinpointed the pre-frontal cortical areas as those responsible for inhibiting volitional movements in this condition [7] and links with hypnotic states suggested on the basis of activation of the same area in experimental, hypnotism-induced paralysis [8]. This may prove to be of therapeutic value in the future.

Treatment of this condition appears to be difficult, where tactics to ‘trick’ the patient can be both futile and unethical, and usually only result in reinforcement of the state. This condition must be recognized as a serious one, where the patient should not be ridiculed, and no attempts be made to outsmart them, as the bond between physician and patient remains of utmost importance. The patient’s avoidance of the psychological conflict must be respected in whatever form it is manifested, as attempts to subvert this may be harmful to the fragile psyche.

Some amelioration of the unresponsive state seems to have been achieved with the use of administration of intravenous chlorpromazine and lorazepam [1]. In other cases cognitive behavioural therapy (as used in Chronic Fatigue Syndrome) appears of long-term use (to prevent recurrence), in addition to addressing any psychological stressors with counselling.

In our patient, it is likely that the conversion syndrome was a result of her pre-morbid personality, and stressful dialysis experiences, in combination with the emotional stress of a renal transplant, and it is surprising that this group of disorders is not encountered more often in the field of organ transplantation, where potentially overwhelming experiences are the norm for the average patient (superimposed on a high background incidence of depression among the dialysis population). This may well represent an extreme of adjustment disorders following renal transplantation and it’s detection and management is important for long-term patient well-being and graft survival.

Although qualitative assays of quality of life and depression post-transplant almost uniformly show a positive relationship [9], these are often discrepant with qualitative interviews, which often reveal covert depression and suicidal ideation [10]. This discrepancy is believed due to a tendency to give socially desirable answers (in questionnaires) through a sense of extreme gratitude to donors, medical and nursing staff etc and an obligation to be of a positive outlook. This may render quantitative measures a poor screening tool to detect depression post-transplantation.

Conclusion

Conversion disorder forms part of a rare, heterogenous ‘psychogenic’ group of causes of failure to recover following anaesthesia. The complex psychological stresses of organ transplantation have been reflected in this form of reaction, which, if diagnosed and managed considerately should be of a good outcome.

References


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