

Clinical features of conversion disorder

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SUMMARY This study reviewed the case notes of 52 children diagnosed as suffering from hysterical conversion during admission to a paediatric teaching hospital over a 10 year period. The disorder was rare below 8 years of age and girls outnumbered boys three to one. Altogether 75% of the children presented during spring and summer; at the time of end of year exams and the beginning of the new school year. The presentation was usually polysymptomatic with gait disturbance being the main complaint in 36 children. Sensory abnormality, predominantly pain, was present in 40 children; this indicates a strong association between psychogenic pain and conversion disorder in children. At discharge 32 were completely recovered or had appreciably improved. There was a core group that presented particular difficulties with diagnosis and showed little positive response to treatment.

Hysteria persists despite changing social structures and by attempts to define¹⁻³ or dispose of it.⁴ The diagnosis can be an unrivalled test of a clinician's skill and belief in his judgment. Certainty is demanded and mistaken diagnosis threatens the doctor with exposure to the resentment of the patient and his or her family, the righteous censure of colleagues, and to humiliating and costly appearances in courts of law.⁵ Even in the most obvious case the diagnosis is seldom made without a certain uneasiness and reluctance.

Hysteria in childhood poses special problems as it is intimately concerned with the child in the family. Taylor has written extensively on the psychiatric aspects of childhood hysteria and sees three elements in its emergence.⁶⁻⁷ The child is oppressed by a predicament that is perceived as intolerable and from which there seems to be no escape. Relief appears in the form of a claim to illness that is managed and promoted by an ally: usually one or both parents. The final element is a model for the illness that may be obvious or obscure or may evolve during the child's dealings with doctors. This structure provides a means for recognition of the psychological forces at work but Taylor uncouples the psychological and the physical, seeing them as different independent 'domains' of the individual's existence. The emergence of organic disease is not seen as invalidating the hysteria.

This formulation, helpful as it is, in some ways provides rather cold comfort for the paediatrician dealing with a child who may be hysterical. Total

exclusion of organic disease is usually demanded by parents (and often by psychiatrists) before psychiatric treatment can start. Additional misgivings arise from the notion that there is an infinite variety of manifestations of hysteria. Older studies of childhood hysteria are often not helpful as diverse entities such as anorexia, hypochondriasis, abdominal pain, headache, and anxiety were included alongside cases of conversion reaction.⁸⁻⁹ More recent studies have tended to be of small samples¹⁰⁻¹¹ or principally to approach the subject from the psychiatric¹²⁻¹⁵ or neurological viewpoint.¹⁶ There are very few long term follow up studies.⁸⁻¹⁷⁻¹⁸ Caplan reviewed 28 children referred to the Maudsley Children's Hospital with a provisional diagnosis of hysteria.¹⁷ Thirteen were found to have organic disease referable for the original complaint. In 10 children, however, this was discovered before the child left hospital. Caplan felt that after careful neurological and psychiatric assessment a group of 'true hysterics' could be identified who do not have organic disease and may do well in the long term. Stevens reached similar conclusions.¹⁸ In both series the children initially presented in the 1950s and early 1960s long before the availability of computed tomography and the other sophisticated techniques of neurological investigation available today.

Study method

The aim of this study was to examine the clinical features of a group of carefully defined children

admitted to a general paediatric hospital in whom the diagnosis was made only after detailed examination, investigation, and psychiatric assessment. The study was limited to children with conversion disorder as this is the most common and most easily defined presentation of childhood hysteria. A search of the medical records of all children discharged from the Royal Alexandra Hospital for Children over the years 1975–84 with a diagnosis of conversion reaction or hysteria was performed. The notes were examined and found to be surprisingly detailed. In particular the more difficult cases exerted a morbid fascination on those looking after them. Long, often revealing, entries appear from medical, nursing, and paramedical staff. Those cases that satisfied the Diagnostic and Statistical Manual of Mental Disorders³ criteria for conversion disorder were studied. These criteria are as follows.

- (1) The predominant disturbance is a loss of or alteration in physical functioning suggesting a physical disorder.
- (2) Psychological factors are judged to be aetiologically involved in the symptom, as evidenced by one of the following:
 - (a) there is a temporal relationship between an environmental stimulus that is apparently related to a psychological conflict or need and the initiation or exacerbation of the symptom;
 - (b) the symptom enables the individual to avoid some activity that is noxious to him or her.
- (3) It has been determined that the symptom is not under voluntary control.
- (4) The symptom cannot, after appropriate investigation, be explained by a known physical disorder or pathophysiological mechanism.
- (5) The symptom is not limited to pain or to a disturbance in sexual functioning.
- (6) The symptom is not due to a somatisation disorder or schizophrenia.

Sixty four children and adolescents had a discharge diagnosis of conversion reaction or hysteria. Twelve patients were excluded: eight failed to meet the criteria and were suffering from hysterical fugue states, anorexia nervosa, or conduct disorder. Two had pain only, and in two others the notes were incomplete. This left 52 patients of whom most were admitted under the care of a general paediatrician. Formal psychiatric assessment was performed in 47

cases (90%), 27 patients were assessed by a paediatric neurologist, and 16 were examined by one or more of the authors.

Results

The mean age of the 52 children was 10 years with a range from 6 to 15 years; 32 (62%) were in the 10 to 12 age group (figure), and 39 (75%) were girls. Regarding birth order: eight were the only child, 14 were first born, 15 were second born, and 15 were born third or later in the family. During the course of their illness 28 had a single admission and 12 required multiple admissions. Two children had two quite distinct hysterical episodes separated by a number of years. There was an apparent seasonal variation with 27 children admitted in the three months of (Australian) spring and 39 in all admitted in the spring and summer (table 1).

CLINICAL FEATURES

Before admission 22 children had symptoms for less than a week. In 19 the complaint had been present

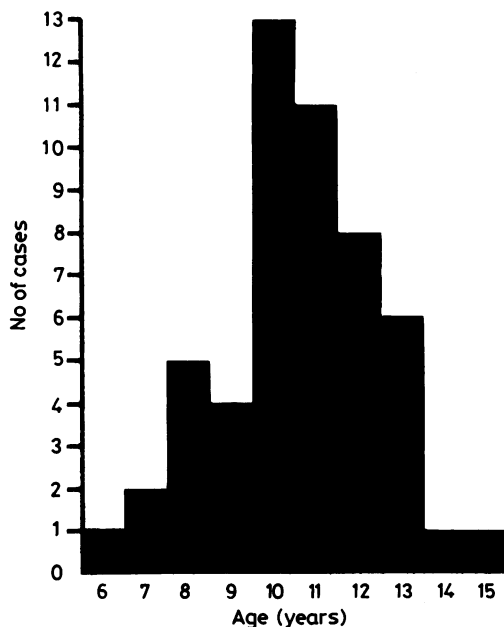


Figure Age at admission to hospital.

Table 1 Time of year at admission to hospital

Month of admission	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
No of cases	5	6	4	1	5	3	—	2	7	11	9	1

for more than a month, and in some of them for more than a year. The presentation was polysymptomatic in 32 children and the presenting symptoms are divided according to the function most disabled.

(1) *Abnormality of gait*

Altogether 36 children had presented with abnormality of gait. Of these, 16 complained of difficulty in, or total inability with walking because of generalised leg pains. The remainder had more classical 'pseudoneurological' presentations. Nine had monoparesis of a lower limb; three were paraplegic; two hemiplegic; two had gross ataxia; two had generalised tremor, and two walked in a shuffling bent over fashion. In all but three children pain and, less frequently, anaesthesia were prominent features. The affected limb(s) was often not troublesome at rest but any attempt at examination or movement provoked complaints of intense pain often accompanied by tears.

(2) *Others*

Eight children had pseudoseizures; two painful monoparesis affecting the upper limb; three blindness (pain being a feature of each); two sneezing; one aphasia (with ataxia); one stridor, and one globus hystericus.

Overall, 40 (77%) complained of pain, parasthesia or anaesthesia, or both, as well as loss of function. Pain was by far the most common complaint. Besides the three children who principally presented with blindness, eight others had visual complaints—for example, blurred or double vision. In one child presenting with blindness there may have been underlying mild optic neuritis but the bulk of the complaint was thought to be hysterical.

Six children had organic disease before their hysterical episodes. Two had diabetes, one severe eczema, one Silver-Russell dwarfism, one epilepsy, and one congenital cataracts and glaucoma. Another was found to have choreiform movements that had been present all her life but no diagnosis had been made previously. In only two children did the conversion symptom affect the part of the body already identified as abnormal.

The psychological features of the children are presented in table 2. One child had been sexually abused by her grandfather well before her hysterical episode. This possibility was considered in three other children but had not been proved at the time of discharge.

Thirty families (58%) were anxious and the home environment was pervaded with fears of loss and physical illness. In contrast, 11 families (21%) were grossly disrupted, with parents and children in open

Table 2 *Psychological features of the 52 children*

<i>Feature</i>	<i>No (%)</i>
Presence of a model	28 (54)
Recent stressful life events	24 (46)
Threat of separation or loss of relative	24 (46)
History of similar symptoms of psychiatric illness	17 (33)
La belle indifference	10 (19)

conflict. Divorce or separation of the biological parents had occurred in 12 families (23%).

INVESTIGATIONS

In general clinical investigations had been performed, even in those cases where conversion reaction seemed highly likely. Most children had 'routine' blood tests—for example, full blood count and electrolytes. Erythrocyte sedimentation rate (in 28), antinuclear factor, rheumatoid factor, and titres for Epstein-Barr virus, cytomegalovirus, and mycoplasma were often requested. Twenty four children had radiographs of the affected limb, skull, or chest. Eleven had electroencephalograms taken, nine had computed tomographic scans, nine had radioisotope studies, and 10 had lumbar punctures (including four myelograms taken). Two children had arteriograms taken of the lower limbs; two had bronchoscopies; three had nerve conduction studies; two had edrophonium tests; two had visual evoked responses tested; one had a barium enema, and in one single patient bone, muscle, and skin biopsies were performed.

Difficulties arising from interpretation of the investigations and true organic changes resulting from prolonged disuse of a limb meant that they clouded rather than clarified the problem in a number of cases. Both arteriograms were performed after radioisotope flow studies suggested obstruction to the arterial supply of the lower limb. In seven of the 11 children who had electroencephalograms minor abnormalities were present. Seven with painful limbs had abnormalities shown on their radiographs such as osteoporosis or joint narrowing. The most difficult case in the entire series was treated with steroids at another hospital for dermatomyositis on the basis of weakness and patchy myopathic changes shown on an electromyogram. When she failed to respond the steroid dosage was increased, and this combined with her near total immobility resulted in appreciable metabolic derangement and steroid myopathy. It was only after a month at this hospital and a massive number of investigations and extensive consultation that it was considered that her illness was primarily psychological.

On a number of occasions the investigation

resulted in an escalation of the symptoms. One girl became paraplegic after her barium enema, and others complained bitterly of back pain after lumbar puncture. In one girl subjected to arteriography of her lower limb the procedure was performed at a time when she had begun to improve and produced a return of her earlier symptoms.

COURSE OF ILLNESS

A number of children had been treated elsewhere before referral to this hospital. Four children had been treated with corticosteroids. In two this was used for intractable sneezing, in one for 'dermatomyositis', and in one for stridor in which an asthmatic component was suspected. Four children with pseudoseizures were treated with anticonvulsants; a variety of anti-inflammatory agents were used for the musculoskeletal symptoms. One child with persistent leg pain had been unsuccessfully treated with one month of immobilisation in plaster on two separate occasions and had also received intra-articular cortisone injections.

In hospital those children who did not spontaneously and rapidly recover were generally treated by the method previously described by Gold¹⁰ and Dubowitz and Hersov¹¹: this consists of stopping unwarranted investigation, giving the child physiotherapy and occupational therapy, and paying attention to psychological factors. Three children had psychotropic drugs prescribed by the department of psychiatry. One child was prescribed imipramine for depression. Both children with intractable sneezing were treated with haloperidol because it was thought that their symptoms resembled a tic. Neither had any other feature of Tourette syndrome nor responded to the medications.

In 23 children, the symptoms had completely resolved at time of discharge. Nine children showed a noticeable improvement in their symptoms, 13 a moderate improvement and eight none. In one case the child's condition at the time of discharge was not recorded. Those children with a shorter duration of symptoms before admission tended to recover more quickly, but this was a trend rather than a strict relationship.

THE 'DIFFICULT' GROUP

A subgroup of 13 children, 11 of them girls, presented particular problems with both diagnosis and management. Their symptoms had been present for a long time at admission: 10 being affected for more than two months. Even more than in the rest of the sample, many organ systems were affected. Nine had weakness combined with nausea, lethargy, and head, limb, and abdominal pains. In four of them weakness of a limb was accompanied by severe

localised pain. They often looked ill and seemed depressed. Anorexia was a feature, with considerable weight loss occurring in a third. They were generally 'good' children, serious minded, compliant, and perfectionistic, who came from families with high expectations of them and were anxious about illness. Seven were at the top of their class or were the local athletic champion. They spent a long time in hospital, up to 72 days, with an average stay of 31 days. Most of the invasive investigations were performed on them, and during their stay doubts about the diagnosis continued. Once treatment began their response was frustratingly slow despite intensive efforts. Only two of these 13 children had substantially improved at discharge; four showed no change at all.

Discussion

There is an impression, supported by many authors, that the manifestations of conversion reactions are protean.^{1 19} This group, on the contrary, displayed many common features: female predominance, a narrow age range, presence of pain or anaesthesia, and presentation with gait disorder. So called classical presentations such as globus or blindness were relatively rare.

The excess of female patients over males is a feature of adult hysteria but has also been seen in many previous paediatric studies.^{8-10 14-16 18} The narrow age range at presentation is probably artefactual with children older than 13 being referred to adult hospitals. The important point is that there were only three children under the age of 8 years and none under 5 years. The dangers of the diagnosis of conversion disorder in the young child cannot be overstated and are well documented.²⁰

Given that children in whom pain was the sole or predominant symptom were excluded from the present study (they were regarded as suffering from psychogenic pain disorder) the frequency and severity of pain as an associated symptom was striking. Altogether 40 (77%) complained of pain or sensory disturbance. This, with the required loss of function, principally an inability to walk, made the child's declaration of illness inescapable. The child was prevented from getting about; this ensured a reaction from the parents. It fits well into the concept of the child 'talking with his body'.²¹ The observation that pain is a frequent concomitant of conversion has previously been noted by Gold¹⁰ and Schneider¹⁶ and Sheffield.²²

An interesting finding is the apparent seasonal incidence, with 50% of the group presenting in the spring. Many of these children were chronically stressed but a number of factors can be advanced as

precipitants of admission at that particular time. Spring is the time of the end of year school exams in Australia. An incapacity to face failure has been long regarded as an important aetiological factor in the production of a conversion reaction.²³ This is further supported by virtual absence of cases during the December school holidays and then an upsurge in January and February at the beginning of the new school year. Additional factors in spring include increased pressure on the child to take part in outdoor sporting and recreational activities that may uncomfortably highlight deficiencies in skills and bodily maturation compared with peers. There may also be an intensification of feelings revolving around the beginnings of sexual maturation.

These children were heavily investigated. It is impossible from a retrospective study to say how many tests may have been avoided. Appropriate clinical investigation is one of the diagnostic criteria for conversion disorder and routine investigations have an important role in convincing the child and the child's allies that physical disease is not present. At times investigations had the opposite effect: the detection of minor abnormalities undermining rather than consolidating the diagnosis of psychological illness and precipitating a further round of investigation. Pressure for additional and often more invasive investigations arose and the institution of appropriate treatment was delayed. Sometimes the investigation provoked a worsening of the child's condition.

Two broad patterns of psychological disturbance appeared in the families. Firstly, there was a group that consisted of anxious families preoccupied with, yet fearful of, disease where illness was the prevailing means of communication. In one such family the little girl kept 'graves' marked with a cross for her cat, budgerigar, and both grandparents in the backyard. Her mother's only close friend had a child who had recently died of leukaemia. She was the youngest child and the mother would keep her home from school at the slightest premonition of illness. In another family, the father was a miner and each morning he would line up the mother and children and kiss them goodbye in case he was killed during the day's work. This sort of family often initially seemed 'normal' and tended to produce the most difficult cases. Secondly, there was a pattern of chaotic social circumstances that was exemplified by a family where the mother herself was the 'black sheep' of her family. She had three families with seven children from different alcoholic fathers. The index case, a 13 year old girl, presented with pseudoseizures, her brother was described as a 'young sociopath', and her sister was unmarried, pregnant, and 'antiestablishment'. In another family

the parents argued openly and constantly at home, and the father continually threatened to leave to live with his girlfriend. He had attacked his wife after a visit to a local club and forced her to walk home dressed only in her underclothes. Despite their estrangement he had split open the head of his wife's boyfriend with a wooden pailing. The presenting symptoms in these children were usually more obviously 'hysterical' and the diagnosis more easily made.

A model was identified in only 28 (54%) of the group. This relatively low figure partly stems from the retrospective nature of the study but also, as Taylor warns,⁷ the model may arise from the long forgotten past or be stumbled upon in the course of the patient's encounters with the medical profession. The virtual absence of sexual abuse almost certainly reflects the lack of awareness of its frequency that prevailed for most of the years of the study. Even in the last years when it was actively looked for no definite cases were found.

The treatment given before arrival at this hospital shows the dangers when allies include doctors. The most dramatic example was the treatment of one child with hysterical sneezing: a 10 year old girl from a country town, who was the captain of her class at school. She was referred after two weeks of constant sneezing day and night. This was felt to be 'probably hysterical, but she appeared well adjusted, sensible and cooperative and the parents uncomplicated and also sensible.' Over two weeks treatment with promethazine, pentobarbitone, thioridazine, morphine, sodium cromoglycate, beclomethasone, and prednisone were tried with respite from the sneezing only during the hours of sleep. She was then taken to the operating theatre and had submucosal diathermy and antral washout to 'shock' her out of it. When this failed she was transferred.

The important aspects of the treatment in hospital included the use of the team approach provided by paediatricians, psychiatrists, and paramedical staff. The provision of an 'escape with honour' was essential. Twenty one children (40%), however, did not show an appreciable improvement at discharge. There are a number of reasons for this. Some children were returned to their referring doctors after diagnosis without beginning treatment. Also being in hospital may reinforce illness behaviour. The identification of a problem as psychological is unlikely to persuade the child suddenly that all is well if there has been no change in circumstances and may even result in an amplification of the patient's symptoms in an effort to 'prove' their organic basis. Certainly taking a punitive line and keeping the child in hospital until the symptoms

disappear invites a degeneration into a contest of wills between the patient and the doctor.

In many of the children it was relatively easy to decide that no organic disease was present. For example, the little girl with intractable sneezing stopped on request so an artefact free electroencephalogram could be obtained and the sneezing immediately recommenced on its completion. A boy who was apparently paralysed and in a wheelchair was seen to kick a ball across the room. The 13 children who formed the difficult subgroup provided no such help. The presence of weakness, generalised limb pains, weight loss, and depression posed a wide differential diagnosis including malignancy and collagen vascular disease. Many were gaunt and miserable and seemed to be chronically ill. Ten children had had symptoms for more than two months before their admission, and when diagnosis was made they responded very slowly to treatment. Allies were readily recruited: there were entreaties such as 'surely an angiogram is indicated' appearing not infrequently in the notes from the more junior medical staff. Other staff found them obstinate and frustrating 'burping, inactive, wingeing, bored . . .' They were generally high achievers under strong pressure from the family to succeed at school and at sport. The illness provided relief from their obligations without the expression of open rebellion. Despite their long admissions only two were substantially improved at discharge. Briquet's words of over 120 years ago seem disturbingly appropriate.²⁴ 'No illness is more difficult to cure than hysteria. . . . One quarter never recover or have the illness their entire lives. Some young girls who become hysteric before the age of 12 or 13 years are condemned to a lifetime of suffering, malaise and sometimes serious illness. They may spend a year or more in bed, completely incapacitated. They are always sick, abort easily, or if they go to term, give birth to more hysterics.'

Much can be made of the role of excessive investigation, contradictory medical opinions, and failure of early recognition of the problem in this sort of prolonged course. It may be equally argued that these children were sicker, their predicament worse, their allies stronger, and their nature more obstinate. Follow up is available on a number of them. The most severely affected girl who, after 72 days in hospital, was still unable to use her hands and would eat by putting her mouth to her plate, took part in a seven hour 'skatethon' several months later. Another immobile and debilitated girl was sent to her brother's property in the country where among the relatively primitive facilities she refused to take her antidepressant medication and made a complete recovery. This sort of cure can be related to a change in the structure of a predicament. Forty

seven years ago Sheldon advocated two weeks convalescence by the seaside as part of the treatment of childhood hysteria.²⁵ As Taylor says: 'It is not necessary, as it were, to remove the last straw that broke the camel's back in order to get the creature back onto his feet; any straw might do.'²⁶ Perhaps in these apparently intractable cases early removal from hospital should be aggressively pursued.

The final question remains, as always, that of organic disease. No formal follow up has yet been attempted on this group. From the experience of Caplan¹⁷ and Stevens¹⁸ we would anticipate a low incidence of organic disease. In the time of the study one child returned with symptoms suggestive of temporal lobe epilepsy that were quite distinct from her initial conversion symptoms. No other cases appeared. It is of course possible that the return was to another hospital.

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