Evaluation of fast track admission policy for children with sickle cell crises: questionnaire survey of parents' preferences

Caroline R Fertleman, Angela Gallagher, Mary A Rossiter

See p 656
North Middlesex
Hospital, London
N18 1QX
Caroline R
Fertleman,
paediatric registrar
Angela Gallagher,
*paediatric nursing
manager*
Mary A Rossiter,
*consultant
paediatrician*
Correspondence to:
Dr Fertleman,
Department of
Paediatrics,
University College
London Medical
School, Rayne
Institute, London
WC1N 6JJ
c.fertleman@
ucl.ac.uk

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In Britain most people with painful sickle cell crises are admitted to hospital through an accident and emergency department. Interviews with patients have shown that this is unsatisfactory because the staff are often inexperienced in dealing with pain from sickle cell crises.¹ Patients want immediate and effective pain relief and not to be asked irrelevant questions.² An audit in our department in early 1994 showed that many children with painful sickle cell crises waited over an hour to receive analgesia. In October 1994 we therefore set up a fast track system whereby children with severe pain from sickle cell crises are admitted directly to the ward after a telephone call from a parent. All 112 children with sickle cell disease have preprescribed doses of pethidine and naloxone written on a prescription chart that is kept on the children's ward. A nurse assesses the child immediately on arrival and gives intramuscular pethidine if appropriate. A doctor is then able to assess and admit a calmer child.

Subjects, methods, and results

We evaluated the efficacy of this innovation by asking: do children receive intramuscular pethidine faster under the fast track policy, do parents prefer the new system, and do other hospitals in London operate similar systems? The time a child waited before receiving an intramuscular injection of pethidine was compared before and after implementation of the fast track policy (January to August 1994 *v* January to August 1995). For those seen in 1994 the time to pethidine was determined from record cards in the accident and emergency department and for those seen in 1995 from a form completed by the nurses. The time to pethidine was compared using a Mann-Whitney U test.

All 25 parents whose children had used both systems by March 1996 completed questionnaires about the two systems. They were asked to mark on a visual analogue scale (0 = very good, 50 = very bad) how they rated each admission system³ and for their comments about the two systems. We also conducted a telephone survey of hospitals with local populations of patients with sickle cell disease to find out how the admission of children with painful crises was managed.

The median time to pethidine for the 37 children (15 boys) admitted through the accident and emergency department (age 7 months to 15 years) was 38 minutes compared with 5 minutes for the 35 children (18 boys) admitted directly to the ward (age 8 months to 14 years) ($P < 0.001$). A total of 21 of the 25 questionnaires that were distributed were returned. All parents preferred the fast track admission system and the median improvement in the satisfaction rating on the Likert scale was 36 (95% confidence interval 11.5 to 58.3) (figure). Most parents commented that they preferred the new system because it was much faster and their children did not have to wait for transfer to

Parental satisfaction with admission policies (0=very good, 50=very bad)

the ward; they also added that the ward staff knew more about sickle cell disease, knew their children, and did not ask irrelevant questions before giving pethidine. Our telephone survey showed that most hospitals (13/15) had special arrangements for paediatric assessment of children with sickle cell crisis so that they were seen as soon as possible after arrival, which was almost always in the accident and emergency department; however, in all cases children had to be assessed by a doctor before any analgesia was prescribed or given.

Comment

Our results show that with a fast track admission policy children receive pethidine faster and that this policy is preferred by parents. The three elements of fast track admission (direct access to the ward, preprescribed analgesia, and assessment and administration of pethidine on arrival by a nurse) are not practised together in any other hospital in London to our knowledge. Fast track admission could be implemented in other hospitals with local populations with sickle cell disease.

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Conflict of interest: None

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Usefulness of screening large numbers of contacts for tuberculosis: questionnaire based review

Helen Stoddart, Norman Noah

In two separate incidents of tuberculosis that we investigated, 732 contacts were identified and 524 screened. As no further cases of tuberculosis were detected, we began to question the value of screening and conducted a questionnaire survey of colleagues in England and Wales to determine their experience.

Subjects, methods, and results

In April 1994 we sent a questionnaire to consultants in communicable disease control and medical officers of environmental health in 155 districts in England and Wales. The questionnaire asked for the number of new cases of tuberculosis found in the preceding three years in incidents in which more than 100 contacts had been screened.

Altogether 123 replies (79%) were returned, with 56 incidents reported. West Midlands and North Western regions reported the largest numbers of incidents (eight and six respectively) while South Western and Northern regions reported none. Altogether, 14 267 were identified (mean 255 per incident). One incident had 1500 contacts and four other incidents had between 500 and 1000 contacts. In 53 incidents, 11 720 contacts were screened; no details were given for the three other incidents.

Forty four cases of tuberculosis were found in 18 of the 56 incidents (table) giving a detection rate of 0.375%. A further 106 (0.9%) contacts received chemoprophylaxis. The development of tuberculosis in contacts, in the 39 incidents with details available, was significantly correlated with the proportion of contacts who had positive results on tuberculin testing (Spearman rank correlation coefficient $r_s=0.416$, $P=0.008$).

Comment

The screening of 100 or more contacts of an index case was not unusual—46% of districts reported at least one such incident.

The detection rate of 0.375% for tuberculosis was much lower than the historical detection rate of 1% for several reasons.¹ Firstly, it may be related to inappropriate screening—usually only close contacts of patients with disease that is smear positive need screening.¹

Secondly, some cases of tuberculosis in contacts may have been missed because of inadequate follow up. Most disease, however, is found at the first follow up after screening.²

Thirdly, the screening test may be inappropriate today. The tuberculin test may be a poor screening tool for tuberculosis,³ although in our survey the development of tuberculosis in contacts was correlated with the proportion who had positive results on tuberculin testing.

Fourthly, tuberculosis may now be less infectious in close contacts because of changes in the host, the organism, or the environment.

Numbers of contacts with tuberculosis detected by screening in 56 incidents* in England and Wales, April 1991 to April 1994

No of cases detected (n = 44)	0	1	2	3	4	5	6	7
No of incidents (n = 56)	38	8	4	2	1	1	1	1

*In which over 100 contacts were screened.

Finally, the cases of tuberculosis may have been unconnected with the index case and an incidental finding in a susceptible group. This would require clarification with molecular techniques.

Whatever reason for the low yield we question the continued use of large scale screening. Close contacts should be carefully defined, and only they should be screened. The considerable pressure to screen large numbers of casual contacts should be resisted.⁴ Veen has suggested screening the closest contacts and then extending this to more contacts, depending on the yield of tuberculosis in the initial screening.⁵ In addition to screening genuine close contacts, other contacts and groups and people at high risk could be provided with information about tuberculosis to enable them to look for symptoms of the disease in themselves and others and to take appropriate action.

If screening of large numbers of contacts for tuberculosis continues, health authorities and providers must be aware of the implications. Local arrangements for the screening and management of contacts will need to be agreed by several departments and organisations. More information will be needed on the closeness to an index case of contacts uncovered by screening. Furthermore, techniques of molecular epidemiology should be applied to determine whether contacts with tuberculosis are connected with or incidental to an index case.

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Endpiece

Truth, reason, and error

Irrationally held truths may be more harmful than reasoned errors.

Thomas Henry Huxley, essay on "The Coming of Age of the Origin of Species" (1881)

Department of Social Medicine, University of Bristol, Bristol BS8 2PR
Helen Stoddart
senior registrar in public health medicine

Department of Public Health and Epidemiology, King's College School of Medicine and Dentistry, London SE5 9PJ
Norman Noah
professor of public health and epidemiology

Correspondence to: Dr Stoddart
Helen.Stoddart@bristol.ac.uk

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