Natural course and follow up

- The irritable bowel syndrome is a positive diagnosis, made on the basis of characteristic symptoms and signs, usually without extensive investigation
- The most important aspect of management is explanation and reassurance, allied to detection of underlying psychological factors and careful selection of treatment options

Most patients with the irritable bowel syndrome do not require or wish to be followed up by a gastroenterologist. Others will require intermittent follow up, preferably by one clinician with whom they have established a rapport and who will generally be able to contain the situation, with the aid of the occasional change in treatment.

Studies of the natural course of the syndrome show that it is a safe diagnosis to make and that up to 70% of patients are virtually free of symptoms five years after presentation. In others, however, it is a chronic relapsing disorder for which permanent cure is unlikely. Most patients learn to live with their problem and find explanation and reassurance by the clinician to be the most helpful aspect of their management.

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Dr K J Moriarty is consultant in gastroenterology, Bolton General Hospital.

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Lesson of the Week

Fulminant hepatitis B in infants born to anti-HBe hepatitis B carrier mothers

S V Beath, E H Boxall, R M Watson, M J Tarlow, D A Kelly

Fulminant hepatitis B may occur in babies born to mothers thought to be of low infectivity

Liver Unit, Children's Hospital, Ladywood Middleway, Birmingham B16 8ET
S V Beath, *clinical research fellow in hepatology*
D A Kelly, *consultant paediatric hepatologist*

Regional Virus Laboratory, East Birmingham Hospital
E H Boxall, *principal virologist*

Wexham Park Hospital, Berkshire
R M Watson, *paediatric registrar*

Department of Paediatrics and Child Health, University of Birmingham
M J Tarlow, *senior lecturer in paediatrics*

Correspondence to:
Dr Beath.

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Infection with hepatitis B virus is a worldwide problem affecting some 200 million people.[1,2] Transmission occurs through exposure to infectious blood and body secretions either during birth or later.[2] The risk of maternal-fetal transmission of hepatitis B is highest when the mother is a carrier of hepatitis B e antigen (HBeAg)[3] and can reliably be prevented by vaccination.[1,2]

The consensus view has been that babies born to hepatitis B virus carrier mothers in the United Kingdom who have already developed antibody to the e antigen (anti-HBe) are at low risk and need not be vaccinated[4] despite previous cases[5] and an incidence of one in 750 cases of acute neonatal hepatitis B in this group in the west midlands over the past 10 years (E Boxall, personal communication). In this paper we draw attention to three babies from the south of England who developed fulminant hepatitis B acquired from their "low risk" anti-HBe carrier mothers during 1988-9.

Present series

VIROLOGICAL METHODS

Hepatitis B markers were screened by radioimmunoassay and passive haemagglutination. IgM antibody was detected by capture radioimmunoassay. Hepatitis B virus DNA was measured by using Abbott Genostics.

CASE HISTORIES

Case 1 was the fourth child of Asian parents. His mother was a known hepatitis B virus carrier whose previous children had been vaccinated against hepatitis B virus. The child did not receive prophylactic hepatitis B vaccination because his mother had become anti-HBe positive (table). He developed acute neonatal hepatitis B virus infection at age 105 days but recovered after 14 days with considerable medical support. Twenty four months later his liver function values were normal and hepatitis B virus markers showed immunity.

Case 2 was the second child of Indian parents. His mother was a known hepatitis B virus carrier whose previous child had been vaccinated against hepatitis B virus. The patient did not receive prophylactic hepatitis B virus vaccination as his mother had become anti-HBe positive (table). The patient developed fulminant hepatitis B on day 66 (table) and was considered for liver transplantation, which was precluded because of his size and age. He died aged 4½ months.

Case 3 was the second child of white parents. His mother was healthy and had not had antenatal screening for hepatitis B virus as it was not routine in her health district. She had travelled to South East Asia 15 months earlier, but this potential hepatitis B virus risk had not been appreciated. Serological tests on day 90 post partum identified her as a chronic carrier of hepatitis B virus (table). The patient's father and elder sister were negative for hepatitis B virus markers. The patient developed fulminant hepatitis B on day 87 (table), and liver transplantation was performed on day 111. This was complicated by recurrent hepatic artery thrombosis, necessitating two further transplant operations. Twelve months later growth and development were satisfactory.

Maternal hepatitis B virus markers during pregnancy (cases 1 and 2) and post partum (case 3), and infant hepatitis B virus markers and liver function values on presentation

	Mothers			Infants		
	Case 1	Case 2	Case 3	Case 1	Case 2	Case 3
HBsAg	1:8000	1:8000	1:12 800	1:8000	>1:8000	Weakly positive
Anti-HBe	+	+	+	+	+	+
Hepatitis B virus DNA (ng/l)	2·4	1·7	0	NT	NT	NT
Core IgM	−	−	−	+	+	+
Biochemistry:						
Bilirubin (normal 0-17 μmol/l)				216	445	183
Aspartate transaminase (normal 0-50 IU/l)				2380	751	2117
Prothrombin ratio (normal 0·9-1·2)				2·3	10·0	11·9

NT=Not tested.
All specimens tested were negative for HBeAg and positive for anti-HBc.

Discussion

It is clear from these cases that hepatitis B virus infection can occur with devastating consequences, even when the perceived risk of perinatal transmission of hepatitis B is low. The baby of an HBeAg positive mother has a 70% chance of becoming a chronic hepatitis B virus carrier,[3] while neonates of anti-HBe positive mothers are at risk of developing acute hepatitis.[2] The incidence of adverse outcome in anti-HBe positive pregnancies is difficult to predict and quantify. The variable outcome cannot be accounted for by genetically determined host response alone since 97% of these babies respond well to inactivated hepatitis B surface antigen (HBsAg) vaccines[6] and immunity to hepatitis B virus has been achieved in all ethnic groups.[3] In cases 1 and 2 the mothers were known hepatitis B virus carriers who had been negative for anti-HBe in previous pregnancies. In the most recent pregnancy both mothers had seroconverted to anti-HBe, and this recently formed antibody may have been less protective to their infants. Differences in the affinity of antibody to hepatitis B core antigen (anti-HBc) have recently been observed in hepatitis B virus carriers with and without evidence of liver disease.[7] An association of adverse outcome with recent seroconversion to anti-HBe has not previously been reported as maternal serology in previous, similar cases[5] has usually been unknown (as in case 3).

Prevention of perinatal hepatitis B virus transmission has tended to concentrate on high risk groups,[2] and even the recent and more comprehensive Department of Health recommendations fail to emphasise the risk to the neonate of any hepatitis B virus carrier mother whatever her marker status and ethnic origin.[8] Thus it should be noted that the current Department of Health guidelines recommend vaccination of the infant of a carrier mother within 12 hours of birth and at 1 and 6 months.[8] Hepatitis B immunoglobulin (200 IU) should be given at the time of the first vaccination. Infants of mothers who have cleared the e antigen and become anti-HBe positive are included in the group of neonates requiring post-exposure vaccination. This new and important addition to the recommendations should be highlighted for those who might not appreciate the change in policy.

A single dose of hepatitis B virus vaccine can now be produced for less than £1.[1] It is plainly cost effective to vaccinate all infants who have been exposed to hepatitis B virus, especially in the context of the costs of intensive medical support and potential cost of litigation when parents learn of the existence of an effective vaccine.[9]

In summary, these three babies developed fulminant hepatitis B from carrier mothers with anti-HBe. One baby died, another developed subacute hepatic necrosis, and the last survived after liver transplantation. We doubt if low infectivity can safely be assumed for any hepatitis B virus carrier mother, and we strongly support the vaccination of all infants of mothers carrying HBsAg.

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Letter from Brasília

Cholera

P D Marsden

> "Of all pestilences cholera is perhaps the most awe inspiring: it may run so rapid a course that a man in good health at day break may be dead and buried ere nightfall."

With these sobering words Harold Scott opens the chapter on cholera in his book on the history of tropical medicine.[1] Today we know that for each index case of such severity there are many patients with mild or asymptomatic infections. One authority puts it at a ratio of 1:6 for the classic *Vibrio cholerae* biotype while it may be as high as 1:50 for the El Tor biotype. Man is the only known reservoir of *V cholerae*.

Cholera is known to have been endemic for two centuries in the Ganges delta of West Bengal and Bangladesh. Apart from numerous epidemics in the Indian subcontinent there have been seven pandemics in the past 160 years. The seventh began in Indonesia in 1961. It extended northward to Korea (1963) and westward through Asia to include the whole of Africa, parts of mediterranean Europe, and the gulf coast of the United States in the 1970s. The El Tor biotype of the cholera vibrio is responsible for the current pandemic. It is hardier and more viable in water than the classic biotype.

As readers of the journal will know, El Tor has now invaded the Pacific coast of Peru and is spreading inland. In Brasília doctors are apprehensive about its possible arrival. Raw seafood is no longer popular in Japanese restaurants. Our hospital director has stockpiled electrolytes for treatment and the director of my own unit has organised a course of evening lectures on cholera. A colleague responsible for the control programme in Peru has recently visited us, and the Brazilian Ministry of Health is collaborating with Peru.

Although details are still not completely clear, it seems that in January 1990 a grain boat from the East that had unloaded at a coastal Peru port was forced to return to port by an outbreak of cholera. The captain inquired whether cholera vaccine was available (it wasn't and is of limited value) and after staying a few days to allow the crew to recuperate the ship resailed. No crew member died, but subsequent serological

Núcleo de Medicina Tropical, Universidade de Brasília—CP 04671, 70·910 Brasília DF, Brazil
P D Marsden, *professor*

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