

CHAPTER 6

Early pregnancy deaths

JAMES P NEILSON on behalf of the Editorial Board

Early pregnancy deaths: recommendations

Service provision

All pregnant women presenting with abdominal pain to an accident and emergency department should be reviewed by staff from the obstetrics and gynaecology department.

No woman should wait longer than 3 weeks from initial referral to the time of her termination. Women referred for a termination of pregnancy who have a potentially life-threatening condition should be given an appointment as quickly as possible.

Individual practitioners

Clinicians in primary care and accident and emergency departments, in particular, need to be aware of atypical clinical presentations of ectopic pregnancy and especially of the way in which it may mimic gastrointestinal disease. This needs to be taught to undergraduate medical and nursing students and highlighted in textbooks.

Dipstick testing for human chorionic gonadotrophin (hCG) should be considered in any woman of reproductive age with unexplained abdominal pain. The test is now quick, easy, and sensitive.

Training

The presentation and management of ectopic pregnancy, especially the atypical symptoms, needs to be taught to undergraduate medical and nursing students and highlighted in textbooks, and reinforced in medical postgraduate education.

50 years ago...

The most striking change during the first 50 years of this Report has been the disappearance of unsafe, illegal abortion as a cause of early pregnancy *Direct* deaths which followed the passage of the Abortion Act in 1967.

The first Enquiry Report, covering the years 1952–54, described 153 deaths from ‘abortion’, of which 108 at the least had been procured illegally.¹ No social class was exempt. “Of cases . . . in which domestic circumstances were noted in reports, the majority of

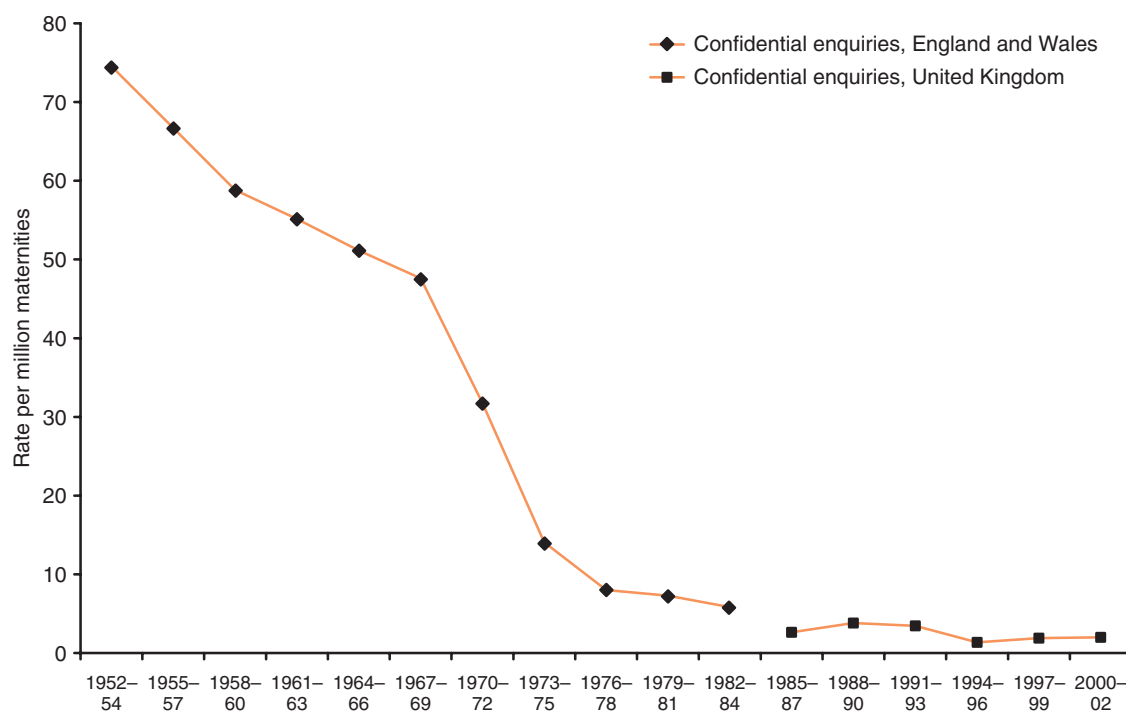


Figure 6.1 Maternal mortality rate from all maternal deaths from miscarriage (embryonic deaths) and terminations of pregnancy; England and Wales 1952–84, United Kingdom 1985–2002

single women were noted to be living in comfortable circumstances, whereas one-third of married women were noted to be living in poor circumstances and many had families of considerable size.” Around 30 deaths per year from illegal abortion continued through the rest of the 1950s and the 1960s. The first full working year of the Abortion Act was 1969 and the number of deaths “clearly due to illegal abortion” fell, that year, to 17. It is interesting that several further years passed before deaths from illegal abortion disappeared completely, demonstrating presumably that legislative changes do not necessarily equate with availability. There were four such deaths during the triennium 1976–78 and one in 1979–81. It was not until 1982–84 that no deaths from illegal abortion were recorded (Figure 6.1).

It is quite possible that the number of deaths from illegal abortion were underestimated. The 1979–81 Report noted that the number of deaths attributed to spontaneous miscarriage had decreased from 1970, in parallel with those from illegal abortion.

The success of the Abortion Act in Britain, and of similar legislation in other countries, is still to be mirrored in many parts of the world, where the scourge of unsafe abortion is still responsible for a large proportion of maternal deaths. In the international context, it is essential that renewed efforts are made to address this continuing challenge.

In the early years of legalised termination of pregnancy, this procedure was very far from innocuous. In 1970–72, the number of deaths from legal and illegal abortion were virtually identical (37 and 38). Termination of pregnancy has, since, become much safer, as shown in Figure 6.2.

The main challenge in reducing deaths in early pregnancy is now the diagnosis and management of women with an ectopic pregnancy.

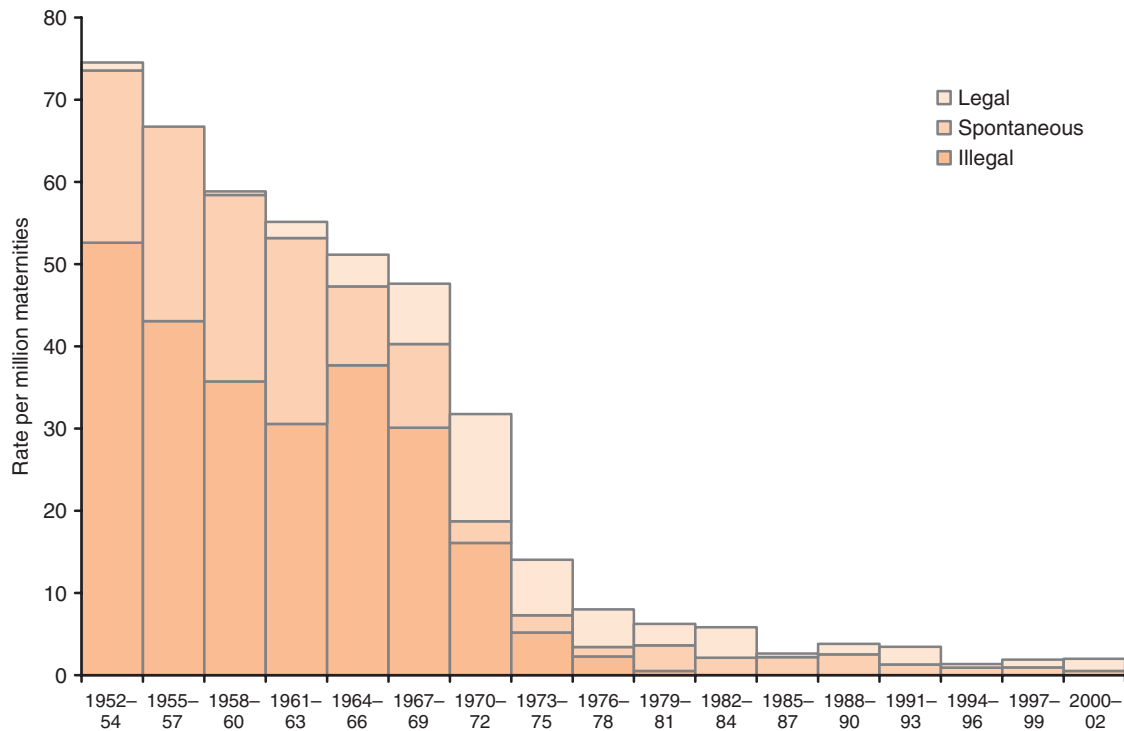


Figure 6.2 Maternal mortality for deaths from miscarriage (embryonic deaths) and terminations of pregnancy; England and Wales 1952–84, United Kingdom 1985–2002

Summary of findings for 2000–02

Fifteen *Direct* deaths attributed to early pregnancy complications are counted in this chapter and shown in Table 6.1. These include 11 deaths from ruptured ectopic pregnancies (seven tubal pregnancies and four cornual pregnancies), one death after miscarriage and three deaths after termination of pregnancy. Two early *Direct* deaths from sepsis are counted and discussed in Chapter 7 Genital tract sepsis and three *Direct* deaths from pulmonary embolism before 24 weeks of completed gestation are counted and discussed in Chapter 2. There are lessons to be learned from the three *Direct* deaths counted in Chapter 9 Anaesthesia, in which general anaesthesia was given for an ectopic pregnancy, an evacuation of retained products of conception or a termination of pregnancy. In addition, one ‘unascertained’ death which occurred some time after an uncomplicated termination of pregnancy is counted in Chapter 12 Indirect deaths.

These figures are tabulated with those from recent Reports in Table 6.1. Although detailed interpretation of trend is inappropriate because gestational age definitions have changed during this time and because of the fine distinction of whether deaths from miscarriage associated with infection are included in this chapter or in Chapter 7 Sepsis, the table has value in conveying a of lack of progress.

As in previous years, the major challenge is to reduce the number of deaths from ectopic pregnancy and especially those associated with substandard care. In two cases, no information other than autopsy summaries has been made available to the Enquiry. Overall, 66%, ten of the 15 evaluated deaths that are counted in this chapter were assessed as having substandard care. Six of 11 deaths from ectopic pregnancy were

Table 6.1 Numbers of *Direct* deaths in early pregnancy by cause; United Kingdom 1985–2002

	Ectopic pregnancy	Miscarriage	Termination of pregnancy	Total
1985–87	11	1	4	16
1988–90	15	6	3	24
1991–93	9	3	5	17
1994–96	12	2	1	15
1997–99	13	2+5*	2	17+5*
2000–2	11	1+2*	3	15+2*

* There were also five deaths in the triennium 1997–99 and two deaths from sepsis associated with miscarriage or amniocentesis in the triennium 2000–02 counted in **Chapter 7 Sepsis**

Note. Until the 1994–96 Report, early pregnancy deaths were defined as occurring before 20 weeks of pregnancy. In subsequent Reports, 24 weeks has been used as the upper gestational limit. Thus, direct comparisons with data from previous triennia may be inappropriate

associated with substandard care, as were all deaths from miscarriage and termination of pregnancy.

A disproportionate number of women were from ethnic minorities, seven of 11 dying from ectopic pregnancies and two of three dying after termination of pregnancy.

Ectopic pregnancy

Table 6.2 shows that the rate of deaths from ectopic pregnancies has not declined since the last Report and is still an increase on the rates described for 1991–93.

There were 11 deaths from ruptured ectopic pregnancies: seven in the extrauterine tube, and four in the interstitial portion of the tube (cornual pregnancies). Cornual (or interstitial) pregnancies account for 2–4% of ectopic pregnancies and are said to have a mortality rate in the range of 2.0–2.5%.² Ultrasound diagnosis is successful in around 70% of cases but there are well-recognised diagnostic difficulties. More conservative methods of treatment, both medical and surgical, have been developed. However, in none of the cases reported here was the diagnosis made before rupture. Haemorrhage can be severe because the pregnancies are often more developed than extrauterine tubal pregnancies and because of the large blood supply to the uterus.

Table 6.2 Deaths from ectopic pregnancies and mortality rates per 1000 estimated pregnancies; England and Wales 1988–1990 and United Kingdom 1991–2002

	Estimated numbers of pregnancies (000s)	Estimated ectopic pregnancies (n)	Ectopic pregnancies per thousand pregnancies		Deaths from ectopic pregnancies (n)	Mortality rate per thousand ectopic pregnancies	
			Rate	95% CI		Rate	95% CI
<i>England and Wales</i>							
1988–90	2,886.9	24,775	8.6	(8.5–8.7)	15	0.6	(0.3–1.0)
<i>United Kingdom</i>							
1991–93	3,137.4	30,160	9.6	(9.5–9.7)	9	0.3	(0.1–0.6)
1994–96	2,911.6	33,550	11.5	(11.4–11.6)	12	0.4	(0.2–0.6)
1997–99	2,873.3	31,946	11.1	(11.0–11.2)	13	0.4	(0.2–0.7)
2000–02	2,739.4	30,100	11.0	(10.9–11.1)	11	0.4	(0.2–0.7)

Source: see Table 21.3

Overall, three of the deaths from ectopic pregnancies occurred suddenly and before any involvement of the clinical services. It is not known if the women had any symptoms before collapse.

Two deaths occurred after substandard care in accident and emergency departments. In one case, a woman with what proved to be an ectopic pregnancy was classed as low priority by a nurse applying the triage system. The woman waited for several hours without seeing a doctor, at which point she collapsed. Another woman was known by the accident and emergency staff to be pregnant but was misdiagnosed as having a urinary tract infection. She was discharged and returned a few hours later, by which time her haemoglobin concentration had dropped from 10 g/dl to 3 g/dl.

These cases reinforce advice in previous Reports that there should be a low threshold for beta-hCG testing in women of reproductive age attending accident and emergency departments with abdominal symptoms. Commercially available dipstick tests for hCG, which are sensitive to values as low as 25 mIU/ml, are simple to use, and provide reliable results within 3 minutes. Also, pregnant women with abdominal pain should be reviewed by staff from the obstetrics and gynaecology department.

The previous two Reports have emphasised the problem of women presenting to their general practitioners or accident and emergency departments with atypical symptoms – notably vomiting and diarrhoea – with the diagnosis of ectopic pregnancy not being considered. There was one such case in the current triennium. The woman had nausea and dizziness. The correct diagnosis was not made in primary care.

There was one potentially avoidable death in a woman who had been seen in a specialist service. An ultrasonically empty uterus was interpreted as showing a complete miscarriage. Death occurred 3 weeks later from a ruptured tubal pregnancy. Quantitative beta-hCG testing would almost certainly have established the correct diagnosis.

Early pregnancy deaths: learning points

- Women with ectopic pregnancies may have atypical symptoms suggesting gastrointestinal or urinary tract dysfunction.
- Cornual pregnancies are rare but dangerous types of ectopic pregnancy. Clinicians should be aware of the difficulties with both clinical and ultrasound diagnosis.

Miscarriage

One woman who died after a miscarriage is counted here. She presented in respiratory and renal failure and declined treatment offered in the intensive care unit. There was no sub-standard care.

Termination of pregnancy

There were five deaths that followed termination of pregnancy. Three are counted here. Another death from pulmonary embolism is counted in Chapter 2 Thromboembolism and the other, an anaesthetic death, is counted in Chapter 9 Anaesthesia.

The following vignettes illustrate problems in systems of the provision of termination of pregnancy:

There were two cases where women, although referred promptly for termination of pregnancy, were not given appointments for more than 5–6 weeks afterwards. National guidelines state that, as a minimum standard, no woman should wait longer than 3 weeks from initial referral to the time of her abortion.³ In one case, the woman was referred to an NHS hospital for termination early in pregnancy but was not admitted until 16 weeks, when she underwent dilatation and evacuation. Another woman, discussed in Chapter 10 Cardiac disease, was referred for a potentially life-saving termination but did not receive an appointment until after she had died of serious cardiac disease.

Another woman, although grossly overweight, was referred from an NHS facility to an isolated charitable institution remote from emergency services.

In the case of a third woman, the report of a routine vaginal swab, taken before the termination, did not reach the relevant clinicians until after the woman had died of group A beta-haemolytic streptococcal septicaemia, secondary to pelvic sepsis, following the termination. The swab grew this same organism. In a further case, investigation of the possible source of infection after a surgical termination was insufficiently rigorous.

In one of these cases there were many major deficiencies in postoperative nursing and medical care. The hospital concerned responded by instituting both internal and external reviews, which has led to many changes in policy.

Other deaths before 24 completed weeks of gestation

In all, 27 women died of *Direct* and 34 of *Indirect* causes of maternal deaths up to and including 24 completed weeks of gestation, of which 15 are counted in this chapter.

Of the 13 other *Direct* deaths occurring before 24 completed weeks of gestation, eight were from thromboembolism and are discussed and counted in Chapter 2, two were from sepsis and counted and discussed in Chapter 7 and three from anaesthesia counted and discussed in Chapter 9.

There were 34 *Indirect* deaths in early pregnancy. Five of these, from cardiac disease, are counted in Chapter 10; three from psychiatric causes are counted in Chapter 11 and one death from cancer is counted in Chapter 13. Twenty-five deaths from *Other Indirect* causes are counted in Chapter 12. Of these, seven had epilepsy, six suffered a cerebral infarct or haemorrhage, three each were diabetic, asthmatic or died of concurrent infections, two had probable autoimmune disease, and in a further two the causes of death remained unascertained.

Seventeen early pregnancy deaths were classified as *Coincidental* and are counted in Chapter 14, representing 50% of the total for this group. Two further deaths from cancer in early pregnancy are counted in Chapter 13.

References

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