Reported management of early-pregnancy bleeding and miscarriage by general practitioners in Victoria

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ABSTRACT

Objectives: To describe the management of early-pregnancy bleeding and miscarriage reported by general practitioners in Victoria.

Design, setting, and participants: Self-administered, mailed survey of a stratified random sample of GPs in Victoria. Responses weighted by strata to reflect GP population.

Main outcome measures: Reported management in referral; investigation (especially ultrasound); expectant versus interventional management; and prevention of rhesus iso-immunisation

Results: 382 of 621 eligible GPs responded (response rate, 62%). GPs' reported referral was more likely if the patient had painful bleeding (55%) or if the pregnancy was not viable (77%). Ultrasound strongly influenced the assessment of bleeding. Two-thirds of doctors (262/369; 66%) would routinely order ultrasound for painless bleeding, and 328/369 (84%) for painful bleeding. Expectant management was recommended by 15/353 (4%) for incomplete miscarriage with light bleeding and by 6/351 (2%) when bleeding was heavy. Some GPs are uncertain of the indications for anti-D prophylaxis, including instrumentation of the uterus, for which 261/337 (77%) said they would routinely offer anti-D. There was less agreement about anti-D after threatened miscarriage, for which 213/353 (57%) said they offered the injection.

Conclusions: GPs need a working knowledge of the management of early-pregnancy bleeding, and can probably encourage more rational management. There are significant areas where GPs are uncertain, often reflecting uncertainty elsewhere, and some areas where a minority of GPs are not aware of essential requirements.

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UP TO 15% OF PREGNANCIES end in miscarriage. If very early pregnancy is included, the rate is up to 30%.[1,2]

The management of miscarriage by general practitioners has been studied in the United Kingdom,[3,4] the Netherlands[5] and Ireland.[6] These studies report shortages of ultrasound facilities and disagreement about the timing and importance of ultrasound. The 1987 British survey showed that the provision of anti-D prophylaxis for rhesus-negative women was haphazard.[3] The Dutch study found midwives were more likely to request ultrasound, while most GPs made their assessments on clinical grounds. In these countries, many miscarriages are managed outside hospital.

Many Australian GPs are still involved in managing pregnancy. A Victorian survey from 1994, with a 70% response rate, estimated that 45.6% of GPs were involved in shared antenatal care, 17.7% in intrapartum care, and 92% in postnatal care.[7] However, there is no published information about the management of early-pregnancy bleeding in Australia. We aimed to assess GPs' knowledge and reported practice in the key management issues described above.

METHODS

Seven hundred GPs in Victoria were selected from the database of the Australasian Medical Publishing Company, in four strata (female-rural, male-rural, female-urban and male-urban) of 175 doctors. This ensured adequate numbers of female and rural doctors for data analysis. Details of recruitment have been published separately.[8]

Responses were weighted to reflect all GPs in Victoria. Variances were calculated for the strata and derived totals.[9,10] Significance tests were based on the difference between proportions (female versus male or rural versus urban).[11] Unless stated otherwise, the proportion answering "always/mostly" (rather than "sometimes" or "rarely/never") is given. Numbers shown are real, but percentages are weighted. Missing responses have been excluded.

Sampling by criteria other than sex and location was not possible. Logistic regression analysis (SPSS for Windows[12]) was performed using the terms age group, holding a diploma in obstetrics, having a fellowship in general practice, providing antenatal care.

The survey was conducted between December 1997 and March 1998. The Human Ethics Committee of the Faculty of Health Sciences, La Trobe University, gave approval.

RESULTS

Seventy-nine doctors could not be contacted or were not in general practice, and were excluded. Of 621 eligible doctors, 382 returned completed forms (62% response rate). Female doctors were more likely than males to reply (68% v 55%; difference, 13%; 95% CI, 5% to 20%). Compared with estimates provided by the Royal Australian College of Obstetricians and Gynaecologists, holders of a diploma of obstetrics

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1: Requesting of and importance attached to results of ultrasound for assessing pregnancy viability by GPs in Victoria

	Rural (*n* = 202)	Urban (*n* = 167)	Rural vs Urban Difference (95% CI)	Female (*n* = 205)	Male (*n* = 164)	Female vs Male Difference (95% CI)	Total (*n* = 369)
Painless bleeding*	148 (71%)	114 (64%)	7% (– 3% to 17%)	155 (75%)	106 (61%)	14% (3% to 25%)	262 (66%)
Bleeding with pain*	186 (89%)	142 (83%)	6% (– 2% to 13%)	189 (90%)	138 (82%)	8% (– 1% to 16%)	328 (84%)
Assessing viability of the pregnancy†	123 (61%)	102 (57%)	4% (– 6% to 15%)	132 (69%)	93 (53%)	17% (5% to 28%)	225 (58%)
Assessing the need for evacuation of the uterus†	107 (53%)	108 (62%)	9% (– 2% to 19%)	125 (69%)	90 (565%)	13% (2% to 24%)	215 (60%)

Percentages are weighted by strata. * Ultrasound always or mostly requested for this indication. † Ultrasound results rated as highly important for this purpose.

were over-represented (37% v 26%). Rural doctors were not more likely to reply than urban doctors (64% v 59%; difference, 5%; 95% CI, – 3% to 13%).

With two roughly equal groups of 190, the study had an 80% power of detecting a difference of at least 15% with 95% confidence.[13]

Overall, 286/363 (64%) doctors said they were involved in antenatal care. Most doctors saw at least one woman with first-trimester bleeding (367/379; 96%) and one case of miscarriage (360/379; 95%) each year.

Only 3/382 doctors (0.3%), all rural, reported having no access to ultrasound in their own or a nearby area.

Almost half the GPs (175/329; 48%) were aware of pharmacological methods of evacuation of the uterus being used by specialists, and 23/273 (8%) reported having used medical methods themselves.

Referral patterns

Few doctors (33/371; 13%) referred all women at first presentation. Urban doctors were much more likely than rural doctors to refer at first presentation (16% v 5%; difference, 11%; 95% CI, 4% to 18%). If a woman presented with painful bleeding, 184/363 (55%) GPs would refer immediately. If the pregnancy was not viable, 272/364 (77%) GPs would refer immediately.

Use of ultrasound

Ultrasound was very widely used (Box 1) and far outweighed other factors and investigations in making clinical decisions on the viability of the pregnancy and the need for evacuation of the uterus. Other clinical factors were not highly rated, apart from sepsis as an indication to evacuate the uterus.

Expectant management versus evacuation of the uterus

Expectant management (ie, no active intervention) was widely used in the management of complete miscarriage, but was rarely the primary option for the care of incomplete/inevitable miscarriage or missed abortion (Box 2).

Management of rhesus-negative women

There was greater variability in GPs' reported management of rhesus isoimmunisation (Box 3). For a presentation of threatened miscarriage, 213/353 (57%) GPs said they would offer anti-D prophylaxis. Rural doctors were more likely than urban doctors to offer anti-D in this situation (66% v 55%; difference, 11%; 95% CI, 1% to 22%). Doctors were more likely to offer anti-D if there was heavy bleeding or the pregnancy was shown to be non-viable.

Logistic regression analysis

Doctors who said they did not provide pregnancy care were less likely to request an ultrasound (odds ratio [OR], 0.5; 95% CI, 0.2–0.8) or to check the blood group (OR, 0.4; 95% CI, 0.2–0.8) for painless bleeding. Doctors aged over 50 years were less likely to base decisions about evacuation of the uterus on results of the ultrasound (OR, 0.3; 95% CI, 0.1–0.9), less likely to check the blood group in cases of painless bleeding (OR, 0.4; 95% CI, 0.2–0.9), and less likely to offer anti-D to rhesus-negative women presenting with threatened miscarriage (OR, 0.3; 95% CI, 0.1–0.6). Possession of the FRACGP or a diploma in obstetrics was not shown to affect responses in any of the key management areas described.

2: Reported recommendations for management of miscarriage by GPs in Victoria given various clinical scenarios

	Expectant management always or mostly recommended	Evacuation of the uterus always or mostly recommended
Complete miscarriage	246/360 (65%)	24/354 (8%)
Incomplete/inevitable miscarriage with light bleeding	15/353 (4%)	260/362 (73%)
Incomplete/inevitable miscarriage with heavy bleeding	6/351 (2%)	317/361 (88%)
Missed abortion	8/348 (2%)	288/360 (83%)

Denominators vary because of missing data. Percentages are weighted by strata.

DISCUSSION

Many GPs are involved in pregnancy care and may need to manage complications of pregnancy. Owing to the relatively low response rate (62%), our results may not be representative of all GPs. Those who are interested in pregnancy management are probably over-represented. The high proportion of female doctors and over-representation of holders of a diploma of obstetrics is consistent with this.

3: Situations in which GPs in Victoria tested the blood group and recommended anti-D for rhesus-negative women

	Blood group always or mostly checked	Anti-D always or mostly offered to rhesus-negative women
At first presentation	279/372 (72%)	169/353 (48%)
Bleeding complicated by other symptoms	252/334 (71%)	159/329 (47%)
Severe or heavy bleeding	296/337 (88%)	239/336 (68%)
Non-viable pregnancy	271/333 (77%)	245/334 (73%)
Where instrumentation is performed	260/328 (77%)	261/337 (77%)
Where ectopic pregnancy not excluded	286/328 (84%)	206/322 (61%)

Denominators vary because of missing data. Percentages are weighted by strata.

The limited access to ultrasound reported from European countries is not seen in Victoria. In fact, ultrasound is a popular first-line investigation, especially when bleeding is complicated by pain. The results are highly valued, particularly by female doctors. This might be because female doctors in our sample were, on average, younger. However, it might reflect a true sex difference, consistent with the Dutch finding that midwives attach more importance to ultrasound compared with GPs.[5]

The variability of GPs' use of ultrasound probably reflects a wider debate. Ultrasound may be a useful tool. However, its routine, early use may lead to a diagnosis of incomplete miscarriage, blighted ovum or missed abortion, when the natural outcome may have been spontaneous, complete miscarriage, and it may therefore encourage unnecessary intervention.[14,15] More research is needed to clarify the risks and benefits of early ultrasound.

The indications for evacuation of the uterus are also the subject of review. Recent evidence suggests that expectant management is safe in most cases of complete miscarriage and at least selected cases of incomplete miscarriage.[16-18] However, current findings are based on relatively small trials. GPs in Victoria appear to have an interventionist approach to incomplete miscarriage. Even with minimal blood loss, few advised expectant management.

The reported use of anti-D prophylaxis for rhesus-negative women by GPs in this survey was clearly different from the British survey in 1987, in which 8% of GPs reported giving anti-D after threatened miscarriage and 46% after a completed miscarriage.[3]

Some absolute indications for offering anti-D exist,[19,20] for example after surgical intervention (Box 4). Our results imply that many GPs are not certain of these indications. Perhaps they rely on specialists or hospitals to make these decisions. However, if anti-D prophylaxis is to be given quickly, if referral is not to be universal, and unless hospitals make no errors, GPs need a working knowledge of its indications.

There is less certainty about the benefit of anti-D prophylaxis after threatened miscarriage. The existing Australian guidelines recommend offering anti-D in cases of threatened miscarriage, but acknowledge that the evidence for any benefit is limited.[21] It seems likely that GPs share this uncertainty.

We have shown significant variation in the knowledge and reported management of miscarriage by GPs in Victoria.

There may be more capacity for GPs in Victoria to manage women with early-pregnancy bleeding outside hospital. To assist them, further research is required into when ultrasound should be ordered, and when it should be delayed or avoided, and when women with incomplete miscarriage can be managed expectantly.

Some guidelines need to be clearer, especially the use of anti-D prophylaxis after threatened miscarriage.

Importantly, some evidence already exists and is being partially overlooked: the safety of expectant management, at least for complete miscarriage, and firm indications for anti-D prophylaxis.

4: Summary of best practice, available guidelines, controversies, and findings from this study

Management issue	Summary of available published reports	Reported practice of GPs in Victoria
Routine ultrasound at first presentation	Controversial. May improve diagnostic accuracy. May lead to unnecessary intervention.	Most (66%) request a scan on first presentation of painless bleeding.
Ultrasound as a basis for decision to evacuate the uterus	Often cited clinically as a major criterion. Some authors say it should not outweigh clinical criteria.	Ultrasound rated as the most important possible criterion by 60%.
Optimal management of incomplete miscarriage	Expectant management may be appropriate, unless there is heavy bleeding or a large volume of retained products of conception.	Very few GPs (4%) advocate expectant management for incomplete miscarriage where blood loss is light.
Medical management of incomplete miscarriage (mifepristone/misoprostol)	Controversial. Similar outcome to surgical management for uncomplicated cases (but expectant management may be just as effective). Significant side effects (bleeding, anaemia) and some failures require surgical evacuation.	Few GPs (8%) reported using medical management of miscarriage.
Anti-D prophylaxis for rhesus-negative women after threatened miscarriage	No firm evidence. Australian guidelines recommend it on medicolegal and theoretical grounds. Prophylaxis is also recommended but not of proven value after miscarriage managed without surgical intervention.	Offered by 57% of GPs after threatened miscarriage.
Absolute indications for anti-D in rhesus-negative women	Surgical management of miscarriage. Ruptured ectopic pregnancy. Termination of pregnancy.	Anti-D recommended by 77% of GPs after surgical intervention for miscarriage.

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COMPETING INTERESTS

None declared.

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