

Karim S M M & Filshie G M. Therapeutic abortion using prostaglandin $F_{2\alpha}$.

Lancet 1:157-9, 1970.

[Depts. Obstetrics and Gynaecology, Makerere Univ. Med. Sch., Kampala, Uganda and King's College Hosp., London, England]

Fifteen consecutive cases of termination of pregnancy with intravenous infusion of prostaglandin $F_{2\alpha}$ (50 μ g per minute) are described. Abortion was successful in 14 cases and complete in 13. Diarrhoea and vomiting were the only side effects noted. [The SCI® indicates that this paper has been cited in over 270 publications since 1970.]

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When this project was devised, I was working at Makerere University Medical School in Uganda. In earlier publications,¹⁻⁴ we had suggested that prostaglandins (PGs) are involved in the process of uterine contraction leading to both spontaneous abortion and delivery at term. Successful use of some PGs in inducing labour at term and in terminating abnormal pregnancies^{4,5} (death *in utero* and molar and anencephalic pregnancies) provided additional evidence for the above suggestion. At that time, the importance of developing safer and simpler methods of terminating early pregnancy had become obvious. However, the abortion law in Uganda then was based on the old British law (i.e., pregnancy could only be terminated when the *life* of the woman was threatened); it was rigidly interpreted and strictly enforced.

I had carried out my earlier work implicating PGs in spontaneous abortion and labour in Sir Stanley Clayton's department at

Queen Charlotte's Hospital, London. I now asked Sir Stanley for help and, at his invitation, planned to carry out the project at King's College Hospital Medical School, London, where he was the head of the Department of Obstetrics and Gynaecology. The arrangement was that the two of us would collaborate in the study, but, because of other commitments, Sir Stanley assigned Marcus (G.M.) Filshie, who had only recently joined the department, to work with me, a collaboration that continued for many years.

After conducting the initial dose-finding study, we successfully used intravenous $PGF_{2\alpha}$ to terminate second-trimester pregnancy in 14 of 15 women. In the failed case (number 13), intravenous infusion of $PGF_{2\alpha}$ in saline solution began on Friday the 13th and continued for 48 hours, but failed to produce an abortion. The patient developed transitory peripheral cyanosis that, in retrospect, was caused by overloading with sodium chloride.

The project would not have been possible without Sir Stanley's advice, constant encouragement, assumption of overall responsibility, and provision of the facility for the study. Yet he refused to have his name included as one of the authors of the publication because, he said, "I did not contribute anything." This attitude has since helped guide my conduct when in a similar situation.

The paper has been frequently cited for two reasons. First, although a ubiquitous distribution of PGs in the human body had been recognised and a large number of physiological functions and practical applications for them had been suggested, this was one of the first clinical uses of a PG. Second, the study was carried out at a time when many countries were liberalising their abortion laws, and PGs offered a safer alternative to available methods of terminating the increasing number of unwanted pregnancies.⁶

1. Karim S M M. Identification of prostaglandins in human amniotic fluid. *J. Obstet. Gynaecol. Brit. Commonw.* 73:903-8, 1966. (Cited 100 times.)
2. Karim S M M & Devlin J. Prostaglandin content of amniotic fluid during pregnancy and labour. *J. Obstet. Gynaecol. Brit. Commonw.* 74:230-4, 1967. (Cited 210 times.)
3. Karim S M M. Appearance of prostaglandin $F_{2\alpha}$ in human blood during labour. *Brit. Med. J.* 4:618-21, 1968. (Cited 150 times.)
4. Action of prostaglandin in the pregnant woman. *Ann. NY Acad. Sci.* 180:483-98, 1971. (Cited 100 times.)
5. Karim S M M, Ng S C & Ratnam S S. Termination of abnormal intrauterine pregnancy with prostaglandins. (Karim S M M, ed.) *Practical applications of prostaglandins and their synthesis inhibitors.* Lancaster, England: MTP Press, 1979. p. 319-74.
6. Karim S M M. Termination of second trimester pregnancy with prostaglandins. (Karim S M M, ed.) *Op. cit.* p. 375-409.