

The role of synthetic prostaglandines in the induction of therapeutical miscarriage

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Summary: The Authors tell about their experience on the use of prostaglandines in patients admitted to the fourth Division of the I^o Institute of the Maternity Home of the Umberto I^o General Hospital in Rome, suffering from fetal pathologies not compatible with an autonomous life.

They describe the effects of the drugs used, underlying their effectiveness in the induction of therapeutical miscarriage.

Key words: Prostaglandines; Therapeutical miscarriage; Congenital pathologies; Synthetic prostaglandines.

INTRODUCTION

Congenital pathology in pregnancy represents an important chapter in human pathology. In recent years, the adoption of electronic control in delivery, labour and the generally better conditions of life, the widespread use of vaccines and antibiotics, have led us to focus in the problem of congenital pathology.

Congenital pathologies have a genetic origin, like the metabolic diseases from exogenous causes (infection, drugs, environmental toxic radiation), and maternal causes, such as diabetes, hypertension, drug addiction and alcoholism, and are often

incompatible with fetal perinatal surviving.

Nowadays, obstetric conduct is possible aiming at the accomplishment of the product of conception, with a minimum of therapeutical aggression and with few side effects and remote series⁽²⁾.

Synthetic prostaglandines such as "Gemeprost", similar to PGE 1 and "Sulprostone", similar to PGE 2⁽³⁾, have proved suitable for this purpose. They both favour the softening and dilatation of the uterine cervix as well as having a stimulating action on the uterine musculature⁽⁴⁾.

Received 20-12-1994 from the
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Revised manuscript accepted for publication
15-2-1995.

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MATERIALS AND METHODS

In order to realise our study, 80 patients admitted to the fourth Division of the II Institute of the Maternity Home of the Umberto I General Hospital in Rome were observed between February 1992 and September 1994.

These patients, whose ages varied between 20 and 45 years, for different reasons — women well on in years, risk factors in personal and

Table 1.

	Diseases
Internal abortion	Bilateral hydrothorax
Kidney failure	Serious heart disease
Anencephalous	multiple diseases
Fetal ascites	Myelomeningoceles
Ectopia-cordis	Endouterine death
Hydrocephalous	Fetal omphaloceles
Fetal Hydropsy	Rachischises
	Conversion serum for rubella

familiar anamnesis, pathological ecographic reports in routine enquiries, — had been subjected to diagnostic enquiries in order to define clearly the actual fetal pathology. The enquiries were different according to the pathologies found; fuondamntally they consisted of the drawing of the villi in the 1st semester, in the amniocentesis at the 16th and 18th week of pregnancy, followed by the checking of the kariotype, in the funiculuscetensis.

In the majority of cases, ecography revealed that some organs and apparati were in poor conditions which, even though not representing the cause of imminent endouterine death testified to the clear impossibility of autonomous surviving.

The diagnosis of these serious conditions, led the patients under study to request the interruption of their pregnancies, according to the law n. 194. To achieve this end, an ideal protocol was tested to be carried out by the use of two synthetic derivates of prostaglandines, Gemeprost and Sulprostone using different methods and doses, changing progressively.

In those patients treated with Sulprostone we administered intracervically 50 micrograms of the drug, distributed into 4 quadrants, and, after three hours, 500 micrograms of Sulprostone were administered by slow phleboclysis in 5% glucose solution, followed by subsequent administration every three hours, up to three times at the most; in the following protocols the intracervical dose was increased to 75 micrograms at the beginning and afterwards to 100 micrograms.

Before the beginning of the treatment the patients were accurately checked to show the local and general conditions, afterwards, during the treatment, a continuous monitoring of the fundamental clinical parameters was carried out (wrist, P. A. general state of health). As soon as the obstetric control showed a sufficient dilatation of the uterine mouth and the beginning of the expulsive period, the patient was taken to the labour ward for delivery.

Afterwards, the instrumental revision of the uterine cavity was carried out under general anaesthesia. In the patients treated with Gemeprost the use of vaginal candles placed into the rear fornix was foreseen, by a milligram of activated substance, to be repeated every three hours up to at the most five.

RESULTS

As already reported by other authors, success is considered complete when expulsion occurs within the first 24 hours starting from the beginning of the treatment.

The percentages of success within 24 hours, after 24 hours, and of failure are given in the figures.

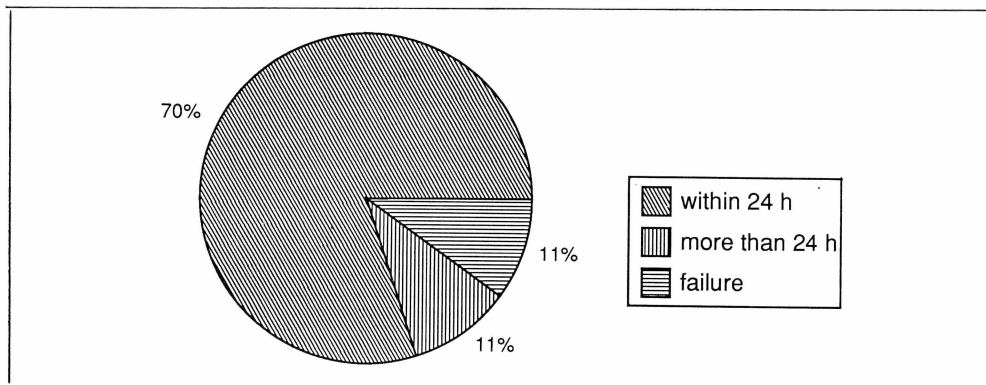


Fig. 1. — Success 24 h with gemeprost.

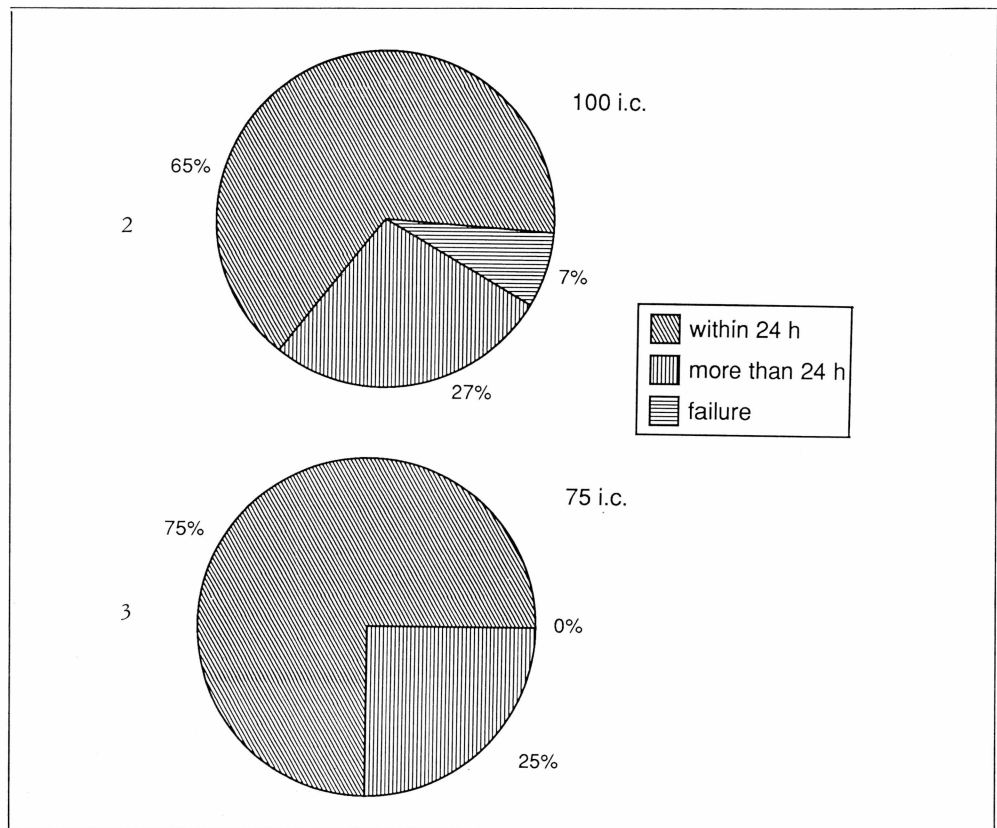


Fig. 2.-3. — Success — 24 h sulprostone.

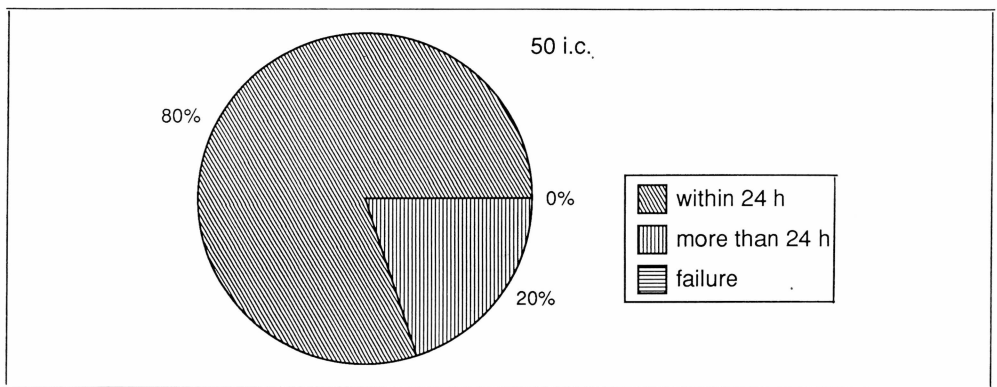


Fig. 4.

CONCLUSIONS

It has been possible to obtain the expulsion of the product of conception by minor therapeutical aggression and few side effects.

As a matter of fact in only 7 cases (3.7%) the treatment had to be interrupted. Three of these patients were part of the group with 100 micrograms injections. Trouble was represented by paresthesia, tetania by hypocalcemia, vomiting, fever, in one case treated with Gemeprost, a diffused skin eruption was observed which required the interruption of the treatments. Remote series are competely absent because the dilation to the uterine mouth and the expulsion of the product of conception occur like in natural delivery⁽⁵⁾. The drugs used showed a similar action.

Gemprost may be easier to administer; as a matter of fact it is sufficient to introduce a vaginal candle in the rear fornix every three hours⁽⁶⁾.

Sulprostone requires a little more invasive administration especially if used, as in our cases, by injection in the cervical interwall, followed by phlebotomy every three hours⁽⁷⁾.

However, our experience has verified that this technique is far easier and without danger. In fact, in our cases after the first sign of intolerance of Sulprostone, it was always possible to interrupt the drug effect very quickly simply closing the perfusion.

A first critical evaluation leads us to state that the incidence of side effects was about twice as high in patients treated with Sulprostone as in those treated with Gemeprost.

The percentages of intolerance were of 37.5% in the first one and 17.86% in the second. Gemeprost appeared slightly more effective (79%) than Sulprostone (64.4%).

Our index can be considered satisfactory and it is perfectly compatible with the

results obtained by other authors 71.1% Satoh⁽⁸⁾, 100% Lehair⁽⁹⁾.

Even if, as already mentioned, the fulfillment of delivery is believed to be ideal within the first 24 hours, the importance of obtaining the appointed goal after a longer period of time must not be underestimated, inasmuch the problem is solved in the least traumatic way, especially for these patients who are already seriously tried by the fetal pathology and the weight of the decision taken⁽¹⁰⁾.

Total failure is extremely rare, and in our three cases (3.2%) it was represented by the need to interrupt the treatment and carry out a microcesarean section⁽¹¹⁾.

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