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LETTER TO THE EDITOR—BRIEF COMMUNICATION

Anaphylactic shock after misoprostol in voluntary termination of pregnancy – a case report

Dear Editors,

Misoprostol, a synthetic analogue of prostaglandin E1, was initially marketed in the 1980s to treat and prevent gastric ulcers due to non-steroidal anti-inflammatory agents, because of its antisecretory and cytoprotective action. In the early 1990s, gynaecologists and obstetricians became increasingly interested in the uterotonic action of misoprostol and its effects on cervical maturation. Misoprostol induces uterine smooth muscle contractions and distends the cervix, improving dilation for intra-uterine procedures and expulsion. Misoprostol is indicated together with mifepristone (RU-486, anti-progesterone) in medical termination of intra-uterine pregnancy of less than 49 days and to prepare the cervix before surgical termination during the first trimester.

We describe a case of anaphylactic shock after misoprostol during voluntary pregnancy termination.

A 17-year-old woman, BMI 31.1 kg/m², with a history of asthma, consulted for termination at 9 weeks of gestation. She received three mifepristone tablets (single dose), under medical supervision. Two days later, she received one 400 µg misoprostol tablet. Four hours later, acute respiratory distress developed: SaO₂ 80% in room air, prolonged expiratory phase, respiratory rate 26 cycles/min, accompanied by generalised urticaria and erythema, bronchospasm, tachycardia, hypotension, headaches, agitation and abdominal pain. Blood tests showed normal electrolytes, negative lactate, and bicarbonate 17 mmol/L. Tryptase was 15 µg/L (normal <13.5 µg/L). The patient was monitored in a continuous care unit for 48 h. She received three intravenous boluses of 0.05 mg adrenaline at 15-min intervals, followed by syringe driver injections at 0.1 mg/h. She also received adrenaline 1 mg by inhalation, volume restoration with 2.5 L of 0.9% physiological saline, 1 L hydroxyethyl starch (Voluven® 6%), and intravenous injections of betamethasone 4 mg (Celestene®), methylprednisolone (Solumedrol®) 40 mg, dexchlorpheniramine 17 mg (Polaramine®), with symptom regression after 1 h. Adrenaline was discontinued the next day. The symptoms fully resolved 2 days later. Discharge prescription was cetirizine (10 mg in the evening) and prednisolone (Solupred®) 40 mg for 3 days.

The adverse events most frequently described with misoprostol are digestive (diarrhoea, abdominal pain), due to the direct stimulatory effect of prostaglandins on the digestive tract. Due to their role in thermoregulation [1], prostaglandins can also cause fever or shivering at high doses or high peak levels after sublingual or buccal administration. Prostaglandin hypersensitivity manifests as cutaneous reactions, bronchospasms, and occasionally anaphylaxis.

There are only three published reports of anaphylactic shock with misoprostol, exclusively in obstetrical applications [2–4]. The first concerns a patient who delivered at 25 weeks of gestation and received 400 µg misoprostol for early postpartum haemorrhage. She then presented with tachycardia (heart rate 120 bpm), high temperature (39 °C) and urticaria. Symptomatic treatment was successful [2]. The second case, a 21-year-old woman, presented with anaphylactic shock after 25 µg oral misoprostol to induce labour at 41 weeks of gestation. She received intravenous diphenhydramine followed by adrenaline, and delivery was by caesarean section [3]. In the third case, a young woman presented with anaphylactic shock and myocardial necrosis after receiving diclofenac and misoprostol [4].

In 2012, the rate of voluntary terminations was 14.5 for 1000 women in France [5]. Medical terminations accounted for 49% of terminations performed in institutions and 57% of all terminations in metropolitan France. The efficacy of medical termination is about 95%. Surgical termination by aspiration is the only alternative to medical termination. This can be performed until the end of 14 weeks of gestation with a success rate of about 99.7%. Misoprostol is widely prescribed in this indication but anaphylactic reactions appear rare. Its risk/benefit ratio is largely positive.

Although severe allergic reactions or anaphylactic shock after misoprostol are rare, gastroenterologists and obstetricians/gynaecologists should be aware of this risk.

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