

## Prostaglandins to Induce Labor in Women with Asthma

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### Clinical Question

Does the use of prostaglandins to induce labor increase the risk of maternal bronchospasm in patients with asthma?

### Evidence-Based Answer

There is little evidence evaluating whether prostaglandins used to induce labor increase the risk of bronchospasm in patients with asthma. The use of dinoprostone to induce labor is not associated with asthma exacerbations or reduced oxygen saturation in patients with active asthma or a history of asthma. (Strength of Recommendation: C, based on a retrospective cohort study.)

### Evidence Summary

Approximately 4% to 8% of pregnancies are complicated by asthma, and prostaglandins are often used to induce labor (225 cases per 1,000 live births).<sup>1,2</sup> However, there are no prospective studies evaluating the use of prostaglandins in pregnant women with asthma.

A small 12-year retrospective cohort study (n = 189) found no change in asthma symptoms in pregnant patients with active asthma or a history of asthma who received dinoprostone for labor induction.<sup>3</sup> There was no increase in the primary outcomes of clinical asthma exacerbation (described as any respiratory symptoms or the need for new bronchodilator medications), and no decrease in pulse oximetry measurements after prostaglandin exposure. An older study on the intravenous use of dinoprostone for pregnancy termination found an uncommon paradoxical increase in airway resistance with nonobstetric dosing.<sup>4</sup> No studies have evaluated whether there is an association between bronchospasm and the use of misoprostol for induction of labor.

### Recommendations from Others

Consensus recommendations from the National Asthma Education and Prevention Program support the use of misoprostol and dinoprostone for cervical ripening in pregnancy and for the management of postpartum hemorrhage.<sup>5</sup> They warn that methylergonovine and carboprost may cause bronchospasm. The package insert for dinoprostone recommends caution when used in patients with a history of childhood asthma, even if there have not been exacerbations during adulthood. The package insert for misoprostol lists bronchospasm as an uncommon adverse event.

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