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Asthma in Pregnancy Guidelines

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Guidelines Definition

Clinical guidelines are systematically developed statements that assist clinicians and patients in making decisions about appropriate treatments for specific conditions.

They allow deviation from a prescribed pathway according to the individual circumstances and where reasons can be clearly demonstrated and documented.

Minor Amendments

If a minor change is required to the document, which does not require a full review please identify the change below and update the version number.

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1. Introduction

Asthma is a chronic lung disorder that is marked by recurring episodes of airway obstruction (in the form of bronchospasm). This is manifested by laboured breathing, accompanied especially by wheezing and coughing and by a sense of constriction in the chest. Asthma is triggered by hypersensitivity to various stimuli (such as allergens or rapid change in air temperature). (Merriam-Webster 2020).¹

Asthma is the most common chronic condition in pregnancy. It affects around 10% of pregnant women. Approximately one third of women will experience a worsening of their asthma control in pregnancy; one third will find it improves; and one third will experience no change. In women with severe disease, it is more likely to deteriorate than in those with mild disease (Goldie M and Brightman 2013).² In the last confidential enquiry ([Freedman and Lucas 2015](#))³ into maternal deaths in the UK, there were 5 deaths attributed to asthma. This number remains fairly static in the previous 4 enquiries.

Pregnant women with asthma need to be closely monitored throughout pregnancy. Asthmatic exacerbations are more common between 24⁺⁰ and 36⁺⁰ weeks of pregnancy. The most common cause of exacerbations are viral respiratory infections, followed by poor adherence to inhaled corticosteroid therapy.²

Poor asthma control can have a negative impact on maternal and fetal outcomes.² There is some suggestion that there may be a link between asthma and hypertension in pregnancy and pre-eclampsia (BTS/SIGN, 2014).⁴ Women with asthma tend to have a higher caesarean section rate than women without asthma. Preterm deliveries, intrauterine growth restriction (IUGR), and low birth

weight have also been associated with maternal poor asthma control. It is important to note however that in most women with well-controlled asthma there are no or minimal additional risks.²

2. Management of Asthma in Pregnancy

The management and treatment of asthma are generally the same in pregnant women as in non-pregnant women and in men. The intensity of antenatal maternal and fetal surveillance should be based on the severity of asthma.²

Women with well-controlled asthma, who are not under the care of a hospital physician for their asthma, and who have not been admitted to hospital because of asthma in the preceding five years, are at low risk of complications and can remain under the care of the community midwife. Any worsening of their asthma symptoms should trigger a recommendation for primary care review of their asthma, and referral into the medical antenatal obstetric clinic service.

Women with moderate to severe asthma treatment step 3 or above need to be managed by both a respiratory physician and obstetrician to optimise asthma control.² Women with poorly-controlled asthma, or women under the care of a hospital physician for their asthma, or women who have been admitted to hospital because of asthma in the preceding five years, should be referred to the medical antenatal obstetric clinic.

2.1 Non-pharmacological Management

- The woman should be educated regarding the importance of good asthma control including smoking cessation (as appropriate), trigger avoidance, compliance and how to use

their devices properly should be delivered by their General Practitioner or Respiratory Nurse specialist via their Physicians clinic.

- A personal action plan should be constructed with regard to day-to-day and exacerbation management.
- Liaise with the respiratory nurses if a woman's control deteriorates or a woman has severe asthma.
- Consider anaesthetic review.

2.2 Pharmacological Management

Both women and their physicians can be reluctant to use asthma medication in pregnancy. However, it should be emphasised that it is safer to use asthma therapy in pregnancy to achieve and maintain good control than to have uncontrolled asthma.²

- Inhaled corticosteroids, short or long-acting β_2 -agonists do not increase the risk of complications for mother or baby at standard/recommended doses
- Theophylline is safe in pregnancy at recommended doses (BNF). It may cause irritability and apnoea in the neonate. (BNF) ⁵ Serum theophylline levels should be routinely monitored as pregnancy may alter the pharmacokinetics of the drug.
- Inhaled corticosteroids have been shown to reduce exacerbations in pregnancy.
- Long acting β_2 -agonists should be added to short acting β_2 -agonists and inhaled corticosteroids if needed to achieve better control. They should not be used without inhaled corticosteroids.

- Oral corticosteroid use in the first trimester has shown a small increase in the risk of cleft lip or palate. They should still be prescribed when required, but used with caution.
- There is a paucity of data regarding leukotriene modifiers, such as montelukast in pregnancy; although they are not known to be harmful.
- Where clinically indicated, continued maternal treatment with montelukast in pregnancy is likely to outweigh any theoretical risk posed to the fetus. Montelukast therapy should not be discontinued on account of pregnancy without careful consideration of the risk to both mother and fetus of uncontrolled maternal asthma.(UKTIS monograph)⁶
- Immunosuppressants e.g. methotrexate, ciclosporin are contraindicated in pregnancy.
- Biological therapies should only be administered in a tertiary centre after evaluating benefit-to-risk ratio.
- Offer influenza vaccine to all pregnant women.

3. Management of Acute Asthma presentation in Hospital in Pregnancy

- Give oxygen to maintain saturations 94-98%³
Drug therapy should be given as for non-pregnant patients including nebulised β_2 agonists and early oral corticosteroids, or in severe cases intravenous β_2 agonist, aminophylline or magnesium sulphate can be used.⁴
- Patients with acute severe asthma should have continuous fetal monitoring.⁴
- Early referral to critical care.⁴

4. Labour and Birth

- Less than one fifth of patients experience exacerbations during labour.²
- Severe and life-threatening exacerbations are very rare.²
- Women receiving steroid tablets at a dose exceeding prednisolone 7.5 mg per day for more than two weeks prior to delivery should receive parenteral hydrocortisone 100 mg 6–8 hourly during labour.⁴

Ergometrine, oxytocin and prostaglandin may cause bronchoconstriction and should be used with caution. Prostaglandin F_{2α} e.g. Hemabate® (carboprost tromethamine) can cause bronchospasm and needs to be used with caution, whereas prostaglandin E₂ e.g. Prostin® (dinoprostone) is not associated with bronchospasm.²

5. Postnatal Care of Asthma and Breastfeeding

- Encourage mothers with asthma to breastfeed.
- Use asthma medications as normal during lactation in line with manufacturers' recommendations.⁴
- Ensure follow up with the woman's GP and Asthma Team on discharge.

6. Useful Information

- Medicines Information Service for Rhondda & Taf Ely and Merthyr & Cynon: 01443 443530.
- Medicines Information Service for Bridgend: 01656 752501
- E-Lactancia Breastfeeding Checker: <http://www.e-lactancia.org/>

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