

Infections during Pregnancy; Accessibility, Consequences, Challenges and Appropriate Management Approach in Albania

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Abstract

Infections during pregnancy represent a unique medical challenge in diagnosis as there is the management of the infected woman and the developing fetus to consider. Perinatal counselling requires a discussion of risks of transmission, interventions to possibly prevent transmission in-utero or postnatally, diagnosis of infection in the fetus or newborn and finally, postnatal management of the infant.

Many congenital infections are asymptomatic at birth, but some can be associated with significant long term sequelae. Some congenital infections can be successfully prevented provided adequate strategies are implemented in a timely manner. The anxiety for parents cannot be underestimated. Informed counselling aims to assist parents with the process.

In conclusion, prevention, early diagnosis and proper management of medical problems like infections during pregnancy often involves a broad spectrum of medical specialists, and a superior of such care can only be done only in harmonised medical interdisciplinary service under a current clinical protocols supported by functional Albanian National Health Service.

Keywords: infections, pregnancy, mother, fetus, diagnosis, consequences

Introduction

Infections in general have overwhelmed society since the beginning of recorded history. Obstetricians who deal with both; mother and fetus are faced with balancing the health of both of them. Many infections may have mild, if any, effects on the mother but cause disturbing damage to the fetus, especially if they occur in early pregnancy.^{1, 2, 3} In addition to the difficulties in diagnosis because of the frequent lack of symptoms, the problem is compounded by the fact that most of these infections are viral, with no specific therapy. Other organisms infect the fetus during the birth process, resulting in serious and sometimes lethal neonatal illness. More recent evidence seems to point to an infectious etiology to premature labor and possibly even to cerebral palsy.

Discussion

Some infections are more serious in pregnancy than in the non-pregnant state because of the potential for vertical transmission. Infection can pass vertically from mother to fetus/neonate in several ways: Across the placenta - infections include *Toxoplasma gondii*, *Treponema pallidum*, *Listeria monocytogenes*, *Plasmodium falciparum* (malaria), rubella and cytomegalovirus (CMV). Ascending maternal infection and chorioamnionitis causing fetal infection, usually subsequent to prolonged rupture of membranes (PROM). Perinatal infection acquired during birth via the haematogenous or genital route. These include human immunodeficiency virus (HIV), herpes zoster virus (HZV), hepatitis B virus (HBV) and *Chlamydia trachomatis*. Postnatal infection transmitted via breast-feeding. Pre-pregnancy or routine antenatal screening can determine the presence or susceptibility to *some* of these infections, enabling appropriate management to prevent adverse fetal or perinatal outcomes.

In Albania many laboratory tests during pregnancy like Toxoplasmosis, other (syphilis, hepatitis, zoster), rubella, cytomegalovirus and herpes simplex or known as TORCH infections and other specific screening and diagnostic tests unfortunately are not done and covered by Albania state laboratory services at due to lack of significance appreciation by people who are accountable for designation and implementation of medical protocols and health macro-politics as well, so the cost of these tests fall direct into patient personal budget where in many cases are not affordable by this subgroups population, thus either they are done in private health service by own expenses or are not done in light of known consequences.

According to a seven year study in United Kingdom, indicates that rates of maternal infection are variable across the country with high concentrations in particular geographical areas. Based on data from women receiving antenatal care in London between 2000-2007, prevalence of HIV infection was 3/1,000 women, of hepatitis B was 11/1,000, of syphilis was 4/1,000 and of rubella susceptibility was 39/1,000.⁴

The clinician faces serious dilemmas in caring for patients who may be at risk for an adverse outcome. Should there be screening for all pregnant women and if the tests are positive, how can the results be interpreted? How should we advise patients who test positive or those who are carriers for organisms that may impact on pregnancy outcome? Most of these questions cannot be answered only by obstetricians, so interdisciplinary approach is necessary required and it is hoped that further clinical investigations may provide some future clarification of these issues.

The obvious means of prevention of congenital toxoplasmosis are preventing infection during pregnancy and detecting infection during pregnancy to provide early treatment. The prevalence of toxoplasmosis in the United States is 20–50%, as determined by serologic screening of adults.⁵ Much higher rates occur in Europe and Africa. Most adults with positive serologic tests are unaware that they have had the disease because 80% of acutely infected patients are asymptomatic. in the United States is 20–50%, as determined by serologic screening of adults.⁵ Much higher rates occur in Europe and Africa. Most adults with positive serologic tests are unaware that they have had the disease because 80% of acutely infected patients are asymptomatic.

The most common problem the clinician faces with regard to rubella is exposure of the pregnant woman to an infected child. Confirmation of the diagnosis by a pediatrician is most helpful. Although the clinical diagnosis is usually not difficult, similar pictures can be seen with enteroviral infections, mild measles, and human parvovirus B19.^{6, 7} Consequently, serologic confirmation is essential,

considering the pregnancy implications.^{1,6,7} 14 If the pregnant woman is known to be immune by prior testing, only reassurance is needed.

Cytomegalovirus is the most frequent of the TORCH infections affecting the newborn. It is the most common cause of congenital hearing loss and neurological impairment.^{1, 8}

Interpretation and management action of IgG and IgM results during pregnancy are presented in algorithm 1 and 2.

Algorithm 1 of interpretation and action of IgG and IgM results during pregnancy

| | | | | |
|----------------------|-----------------------|--|--------------------------------|----------------------|
| Maternal Serology | Ig G + ve IgM – ve | IgG – ve IgM – ve | IgG – ve IgM + ve | IgG + ve IgM + ve |
| Interpretation | Immune | Susceptible | Recent infection? | Recent infection |
| Action of Management | | Repeat IgG 2-4 weeks after exposure or if symptoms occur | | |
| | | IgG – ve (False + ve IgM) | IgG + ve (Recent infection) | |
| | NIL | | | See algorithm 2 |

Algorithm 2. Action when maternal infection during pregnancy confirmed

| | |
|--|---|
| Confirmed maternal infection before 12 weeks gestation | |
| Ultrasound examination at 1-2 weeks intervals for 10 weeks | |
| No fetal abnormality after 20 weeks gestation | Refer to e tertiary health center (consultation with specialist experienced in fetal ultrasound, medical specialists and to be completed with laboratory tests and examination) |
| No further action | |

Conclusions

In conclusion, prevention, early diagnosis and proper management of medical problems like infections during pregnancy often involves a broad spectrum of medical specialists, and a superior of such care can only be done only in harmonised medical interdisciplinary service under a current clinical protocols supported by functional Albanian National Health Service.

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