

Diagnostic and Treatment Considerations in the Perinatal Patient

1 hour

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Description:

Pregnancy and the postpartum period bring unique ocular and systemic changes that can influence both diagnosis and treatment decisions in optometric care. This course will review the biochemical, hormonal, and physical alterations associated with the perinatal patient, highlighting their impact on clinical management and patient outcomes.

Objectives:

After today's lecture, the Doctor of Optometry should be able to:

- Identify ocular changes associated with pregnancy
- Name topical ophthalmic pharmaceuticals acceptable for use in the perinatal patient when treating certain anterior segment conditions
- Describe nutritional and vitamin recommendations in perinatal patients
- Recognize multiple factors affecting diagnostic testing during pregnancy including the use of contrast dye and radiation considerations

Outline:

Overview

- Background of pregnancy and gestation
 - Altered immune suppression
- Gestational periods
 - First trimester: last menstrual period - 13th week
 - Second trimester: 14th week - 27th week
 - Third trimester: 28th week –42nd week
 - “Fourth” trimester: postpartum up to 12 weeks after birth
- Nutrients and vitamins considerations
 - Dietary recommendations
 - “Eating for two” adage

First Trimester

- Nutritional perspective
 - Prenatal supplementation
 - Nutraceutical concerns
 - B12 and folate in ophthalmic testing
 - Difference in methylated folate (methylfolate) v. folic acid v. folate
 - Hypervitaminosis
 - Individual vitamin and mineral use versus multivitamins
 - Available formulations
 - Differences in absorption
- Ocular changes during pregnancy
 - Refractive shift

- Myopic or hyperopic
 - Increased likelihood with each trimester of pregnancy
 - Most often resolve after birth and cessation of breastfeeding
 - Important to consider may be secondary to other ocular changes
 - Cataract, diabetes, preeclampsia, accommodative spasm
 - Dry eye disease
 - CL intolerance
 - Adnexal changes
 - Chloasma (Melasma)
 - Increased levels of hormones
 - Hypermelanosis of sun-exposed areas
 - Possibility of solo involvement of eyelids
 - Typically resolves post-partum
 - Unilateral ptosis
 - Perinatal and postnatal
 - Levator aponeurosis affected by fluid and hormonal changes
 - Resolves postpartum
 - Is workup indicated during pregnancy
 - Thyroid
 - Retinopathy
 - Diabetes
 - Significant risk in Type 1
 - Hyperglycemia , duration of DM, previous/degree of retinopathy, glycemic control, and HTN comorbidity associated with progression of retinopathy
 - Activation of immune system possibly plays a role in progression during pregnancy
 - Frequency of examination
 - During first trimester
 - Monitoring depends on initial degree of retinopathy
 - 10% of patients without DR develop NPDR
 - 50% progression in NPDR with regression in third and fourth trimester
 - 5-20% with severe NPDR progress to NPDR
 - Retinal treatment before pregnancy
 - Hypertension
 - Preeclampsia v. eclampsia
 - Secondary headache
 - Secondary headache 2/2 preeclampsia
- Autoimmune conditions in early pregnancy are often quiet, but flares can occur
 - Relapses most often occur postpartum
 - However, in patients who are undiagnosed or require change in treatment may exhibit worsening during early pregnancy
 - Diagnostic dilemmas due to the pregnant state
 - MRI with and without contrast
 - Gadolinium
 - Contrast dye during pregnancy
 - Pharmacokinetic considerations
 - Considerations in different trimesters
 - No concern regarding radiation

- Computed Tomography
 - Radiation concern
 - More exposure as compared to X-rays
 - Pharmacological considerations
 - Contrast dyes
 - Bioavailability of IV delivery
 - Makeup of placental barrier

Second trimester

- Further changes occur during the second trimester of pregnancy, such as pregnancy associated weight gain
- Significant implications on patients with pre-diagnosed or newly diagnosed patients with Idiopathic Intracranial Hypertension (IIH)
 - Potential underlying pathophysiology during pregnancy
 - Exacerbation of previously-diagnosed IIH
 - Treatment versus monitoring
 - Diagnostic concerns
 - Dilation drops
 - Anticholinergic
 - Adrenergic agonist
 - Systemic absorption
 - Visualization on MRV
 - Should it be performed?
 - Clotting changes associated with pregnancy and hormonal changes
 - Stroke consideration
 - DVT, vein occlusion concerns
 - Lumbar Puncture
 - Diagnostic and therapeutic
 - Repetitive LPs
 - Considerations in woman above ideal body weight
 - Positioning when pregnant
 - Risks associated with entering CSF
 - Pharmacological concerns
 - Treatment options
 - Initiation in newly-diagnosed IIH versus monitoring
 - Continuation v. discontinuation of medication in previously-diagnosed patients
 - Carbonic anhydrase inhibitors
 - Acetazolamide
 - Topiramate
 - Weight loss recommendation during pregnancy
 - Sodium intake
 - Not all salts have the same effect of water retention
 - Processed differently than oxidized salt
 - Cravings during pregnancy
 - Mineral or vitamin deficiency
 - Inadequate nutritional needs
 - Unusual pica

- Future treatment options
 - Weight loss management systems
 - Physician assisted weight loss
 - Bariatric weight loss surgery
 - Prescription medications

Third trimester

- Changes in space-occupying lesions
 - Treatment warranted versus monitoring
 - Anesthesia considerations during pregnancy
 - Neuroanesthetic considerations for patient and fetus
 - Maternal hypotension, uterine artery vasoconstriction
 - Drug administration and fetal side effects
 - Surgical considerations during pregnancy

Fourth Trimester (Postpartum)

- Anterior segment
 - CLARE, infiltrative keratitis, bacterial keratitis associated with CL overwear
 - Preemptively discuss refractive surgical options
 - Topical ophthalmic treatment options
 - Risk v. benefit in historical category C medications
 - Hordeola and chalazia
 - Hypovitaminosis and affected absorption
 - Gut microbiome changes
 - Omega 3 and 6 intake
- Autoimmune disorders
 - Exacerbation during the first trimester and postpartum period
 - Treatment considerations when immunosuppressive and biologic agents utilized
 - Graves Disease
 - Initial onset noted in postpartum approximately 40% of the time

Questions and Discussion