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Editorial Board Member

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Biography

- Dr. Shibin Cheng is currently an Assistant Professor of Pediatrics in Women and Infants Hospital, Brown University.
- He received his M.D. from Wannan Medical College and the degree of Master of Science in Physiology from Sun Yat-sen University of Medical Sciences in China. He obtained a Ph.D. in Neuroscience from Kagoshima University in Japan.

Research Interest

Shibin Cheng research interests includes Interaction of herpes simplex virus and host proteins, relationship of herpes simplex virus and neurodegenerative disease, G protein-coupled receptor, neurotoxicity of environmental hormones, and preeclampsia

Publications

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Preeclampsia

- **Pre-eclampsia** or **preeclampsia** is a disorder of pregnancy characterized by high blood pressure and large amounts of protein in the urine. Though present in the majority of cases, protein in the urine need not be present to make the diagnosis of preeclampsia.
- It involves many body systems and evidence of associated organ dysfunction may be used to make the diagnosis when hypertension is present. This includes the presence of a low blood platelet count (thrombocytopenia), impaired liver function, the development of new kidney dysfunction, fluid accumulation in the lungs (pulmonary edema), and/or new-onset brain or visual disturbances.
- If left untreated, preeclampsia can develop into eclampsia, the life-threatening occurrence of seizures during pregnancy. Preeclampsia is associated with multiple maternal and fetal adverse effects.

Signs and Symptoms

- Swelling or edema (especially in the hands and face) was originally considered an important sign for a diagnosis of preeclampsia. However, because swelling is a common occurrence in pregnancy, its utility as a distinguishing factor in preeclampsia is not great.
- Pitting edema (unusual swelling, particularly of the hands, feet, or face, notable by leaving an indentation when pressed on) can be significant, and should be reported to a health care provider.
- In general, none of the signs of preeclampsia are specific, and even convulsions in pregnancy are more likely to have causes other than eclampsia in modern practice. Further, a symptom such as epigastric pain may be misinterpreted as heartburn. Diagnosis, therefore, depends on finding a coincidence of several preeclamptic features, the final proof being their regression after delivery.

Causes

- There is no definitive cause of preeclampsia, though it is likely related to a number of factors. Some of these factors include:
 - abnormal placentation (formation and development of the placenta)
 - Immunologic factors
 - Prior or existing maternal pathology - preeclampsia is seen more at a higher incidence in individuals with preexisting hypertension, obesity, antiphospholipid antibody syndrome, and those with history of preeclampsia
 - Dietary factors, e.g. calcium supplementation in areas where dietary calcium intake is low has been shown to reduce the risk of preeclampsia
 - Environmental factors, e.g. air pollution

Risk Factors

Known risk factors for preeclampsia include:

- Nulliparity (never given birth)
- Diabetes mellitus
- Renal disease
- Chronic hypertension
- Prior history of preeclampsia
- Family history of preeclampsia
- Advanced maternal age (>35 years)
- Obesity
- Antiphospholipid antibody syndrome
- Multiple gestation

Diagnosis

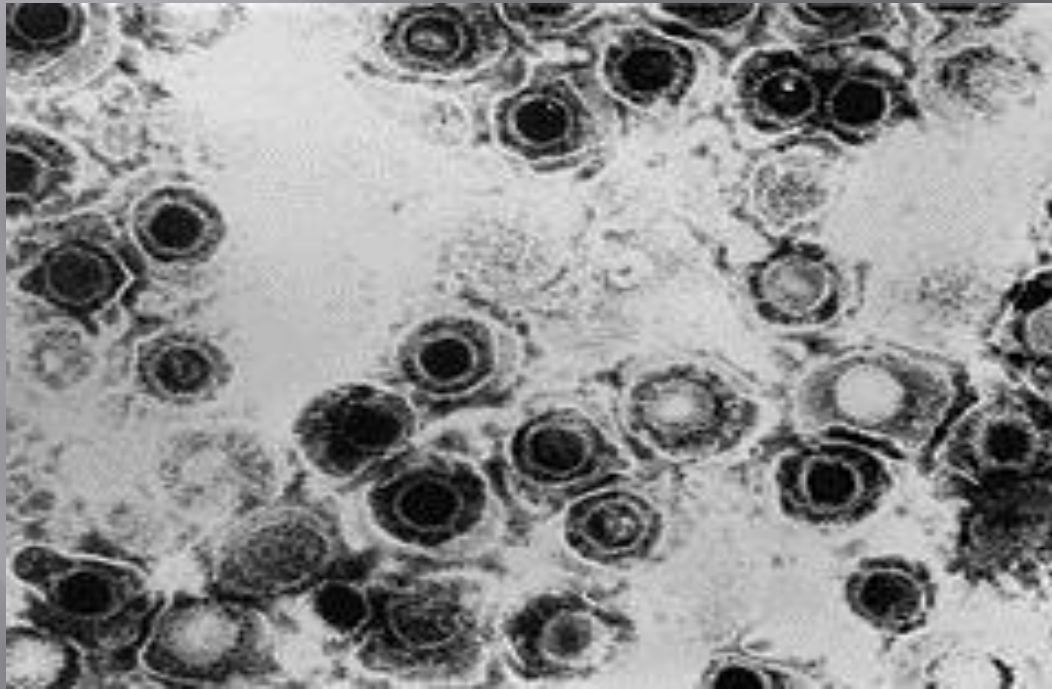
Pre-eclampsia is diagnosed when a pregnant woman develops:

- Blood pressure ≥ 140 mm Hg systolic or ≥ 90 mm Hg diastolic on two separate readings taken at least four to six hours apart after 20 weeks gestation in an individual with previously normal blood pressure.
- Proteinuria ≥ 0.3 grams
- Evidence of kidney dysfunction (oliguria, elevated creatinine levels)
- Impaired liver function (impaired liver function tests)
- Thrombocytopenia (platelet count $<100,000$ /microliter)
- Pulmonary edema
- Ankle edema pitting type
- Cerebral or visual disturbances

Herpes Simplex Virus

- **Herpes simplex virus 1 and 2 (HSV-1 and HSV-2)**, also known as **human herpes virus 1 and 2 (HHV-1 and HHV-2)**, are two members of the herpes virus family, Herpesviridae, that infect humans. Both HSV-1 (which produces most cold sores) and HSV-2 (which produces most genital herpes) are ubiquitous and contagious. They can be spread when an infected person is producing and shedding the virus. Herpes simplex can be spread through contact with saliva, such as sharing drinks.
- Symptoms of herpes simplex virus infection include watery blisters in the skin or mucous membranes of the mouth, lips or genitals. Lesions heal with a scab characteristic of herpetic disease. Sometimes, the viruses cause very mild or atypical symptoms during outbreaks. However, as neurotropic and neuroinvasive viruses, HSV-1 and -2 persist in the body by becoming *latent* and hiding from the immune system in the cell bodies of neurons. After the initial or *primary* infection, some infected people experience sporadic episodes of viral *reactivation* or *outbreaks*.

➤ In an outbreak, the virus in a nerve cell becomes active and is transported via the neuron's axon to the skin, where virus replication and shedding occur and cause new sores



TEM micrograph of a herpes simplex virus

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