

The burden of neural tube defects: Why universal folate supplementation matters

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ABSTRACT

Introduction: A recent press statement from the Ministry of Health Malaysia on mandatory folic acid supplementation in wheat flour has been welcomed. The risk-benefit ratio remains favourable in countries where the policy has been implemented. We describe two cases of neural tube defects (NTDs) not uncommonly seen in our population and provide striking images to illustrate the impact of the diagnoses. **Case Description:** *Case 1:* A 22-year-old primigravida with moderate intellectual disability presented to us at 30 weeks of gestation with abnormal antenatal ultrasound findings. She did not receive pre-natal folic acid supplementation. Transabdominal ultrasound showed myelomeningocele at the level of L4 to S1 vertebra, associated with hydrocephalus and absent septum pellucidum. The baby was born prematurely, and the myelomeningocele ruptured during vaginal delivery. The myelomeningocele repair followed by an Ommaya shunt was done. *Case 2:* A 40-year-old lady with subfertility conceived spontaneously and unexpectedly. There was no history of epilepsy or use of traditional medication. She was classified under the B40 group and did not take any vitamins or folate supplementation prior to conception. She presented to us at 20 weeks of gestation with anencephaly and after counselling opted for a termination of pregnancy. **Discussion:** Mandatory folic acid fortification has helped to reduce 150,000-200,000 NTDs a year in low/medium income countries. In Malaysia, the incidence ranges from 0.09-1.09 per 1,000 livebirths and is highest amongst the indigenous population in rural Sarawak. Mandatory folic acid supplementation in wheat flour is a step in the right direction.

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Pacemakers and heart blocks in pregnancy: An algorithmic approach

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ABSTRACT

Introduction: Bradycardia in pregnancy is usually transient and may be secondary to an increase in vagal tone. Pathological bradyarrhythmias however, requires an accurate electrophysiological diagnosis and in some cases, the use of a pacemaker. **Case Description:** We describe two cases of atrioventricular blocks (AVB) in pregnancy and provide a simplified decision-making algorithm on pacemaker placement. *Case 1:* A 22-year-old primigravida was found to have new onset bradycardia during routine antenatal visit at 25 weeks. Evaluation showed a second degree Mobitz Type II 2:1 AVB. A temporary transvenous pacemaker was placed. Subsequent evaluation showed an improved AV conduction during exercise and intravenous atropine, and no change to the AV conduction ratio with vagal stimulation or any ventricular standstill episodes. The temporary pacemaker was removed. *Case 2:* A 20-year-old primigravida at 12 weeks of gestation with complete congenital heart block since 2017 was evaluated because of her pregnancy. Cardiac MRI and ECHO has previously excluded structural disease. Her ventricular rate was 35-40 bpm and she remained asymptomatic. An exercise stress test with Modified Bruce Protocol showed adequate chronotropic response with a maximal heart rate of 102 bpm. It was decided that a pacemaker was not indicated. **Discussion:** 1st and 2nd degree Type I AVB are usually inconsequential and non-progressive. Placement of a pacemaker in pregnancy confers both a surgical and radiation risk therefore women who are asymptomatic, has normal ventricular function, supra His involvement, narrow QRS escape rhythm and a chronotropic response to exercise may not require immediate pacemaker insertion.