

A CONSTRUCTIVE REVIEW ON HYPERTENSION IN PEDIATRIC DENTISTRY AS PUBLISHED IN ‘CURRENT ISSUES IN PHARMACY AND MEDICAL SCIENCES’

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OPINION

The article, “Hypertension in paediatric dentistry practice”, published in “Current Issues in Pharmacy and Medical Sciences”, seeks to discuss the risk factors for hypertension in children and young people, as well as the available treatments and potential oral symptoms.

The authors stress the importance of an interdisciplinary approach that must be advocated between a general practitioner, cardiologist and a dentist. This can help in providing an early diagnosis and an effective course of treatment. A teamwork of this stature can also help in avoiding complications related to hypertension and the medications used to treat it.

The author begins with a basic classification of hypertension in children and adults which can be primary or idiopathic. The common etiological factors listed for the occurrence of hypertension in children included primary kidney disease, heart defects, coarctation of aorta or endocrine disorders. In older children, it can be because of nephropathy or nephritis. Current standards suggest that both systolic and diastolic pressure should be lower than 90 percentiles in healthy children. In hypertension, it is equal to or higher than 95 percentiles, and values between 90 and 95 are considered pre-hypertensive.

A synthesis of evidence has yielded six factors that co-exist with hypertension.

- Obesity and hypertension are associated with high BMI and excessive waist circumference.
- A link between decreased of salt intake and the lowering of blood pressure was empirically derived by He et al.
- Kuciene et al emphasizes that short sleep time (<8 hours) is associated with an increased risk of hypertension.
- In his prospective study, Fraser at al. concluded that preeclampsia in pregnant women or gestational hypertension can lead to an increase of blood pressure in children

- Premature birth was associated with hypertension through an observation cohort by Vohr et al. A secondary analysis in the same study included a randomized controlled trial which concluded that weight gain velocity, intrauterine stress and neonatal brain injury increase the blood pressure in premature births. Impairments in neuromuscular conductivity due to traumatic head injuries in children has been associated with cardiomyopathy. This in turn leads to hypertension.

Treatment modalities outlined by the authors include lifestyle changes and pharmacological treatment. Lifestyle changes are directed towards regular exercise and dietary changes. Angiotensin-Converting Enzymes, Angiotensin II receptor antagonist, calcium channel blockers, diuretics, beta-blockers are the commonly prescribed for pharmacological management of hypertension.

Association of hypertension in pediatric dentistry was also a significant section of the article. The authors stress on adapting the standard guidelines set by the American Dental Association (ADA) in 1976. According to this framework, blood pressure should be measured every child older than 3 years in every dental visit. Blood pressure should be monitored (before, during and after the treatment) especially in the ones who are categorized under the risk group to avoid consequences of “white coat hypertension”.

In children with hypertension, local anaesthesia with vasoconstriction is not given. Moreover, NSAIDS should not be given for more than 10 days. Telangiectasia, gingival hyperplasia, tongue enlargement and Quinke oedema are often encountered in children taking calcium channel blockers. Regular check-up and periodontal care become a mandate in such patients.

Overall, the article is scientifically thought-provoking for pediatric dentists. This is because they have an opportunity to evaluate children's health more frequently than medical paediatricians. Thus, they can contribute directly towards the management of hypertension in young patients.