

Childhood obesity

Introduction

Obesity is a chronic disease that is increasing in prevalence in adults, adolescents, and children, and is now considered to be a global epidemic. Obesity is associated with a significant increase in mortality and risk of many disorders, including diabetes mellitus, hypertension, dyslipidemia, heart disease, stroke, sleep apnea, and others. As well as the evaluation, prevalence and treatment of obesity in childhood obesity.

Childhood obesity

Is a major public health crisis nationally and internationally. The prevalence of childhood obesity has increased over few years in all pediatric age group in both sex. Approximately 22million children under 5years of age over weight across the world. The number of overweight children and adolescents has doubled in last 2 to 3 decades in the world. World Health Organization on childhood obesity find 41million children under 5years either obese or over weight as of 2014. However more than 90% of cases are idiopathic and less than 10% are associated with hormonal or genetic causes. The idiopathic mainly caused by imbalance between calorie intake and calories utilized. High calorie density and fat content of modern diet and lack of physical activity is associated with increased risk of obesity. Physical, psychological and social health problems are caused due to child health obesity.

Comorbidities Associated with obesity and overweight are similar in children as in adult population elevated blood pressure, dyslipidemia and high prevalence insulin resistance and type 2 diabetes appear as frequent complication in the overweight and obese pediatric population. Approaches in the prevention and treatment of childhood overweight and obesity are urgently required including first healthy diet and physical activity when lifestyle modification is insufficient to reach weight loss and complication of obesity affect child health pharmacotherapy is recommended if age more than 10years. Bariatric Surgery is reserved for carefully selected sub group of young children with obesity related co-morbid condition threaten the child health where lifestyle and medication have been evaluated but found not be effective.

Medical therapy

- Medical Therapy is recommended if all preventive measures fail and complication of obesity affect child health, drug therapy is recommended if age is more than 10years.
- Inhibitor of nutrients absorption as pancreatic lipase inhibitors.
- Appetite suppressants as Amphetamine derivatives
- Agents which increase energy expenditures as Thyroxin (FT4) due to little experience of their use and efficiency in childhood is not recommended.

Orlistate (Xenical)

Approved for adolescents older than 12years old but is not often recommended because of risk for long term are unknown and its effect on weight loss is not clear.

Volume 8 Issue 1 - 2018

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Received: December 13, 2017 | **Published:** January 04, 2018

Metformin (Glucophage)

- It is a biguanide derivative used for:
- Treatment of children and adult with DM type 2
- Decreased Hyperinsulinemia and reduced risk for DM type 2 in obese adult
- Promotes weight loss in some obese adult individuals by improving Hepatic and Muscle Insulin sensitivity
- Polycystic ovary disease

Metformin in children: FDA approved for DM type 2 in children over 10years of age.

Not approved by FDA for treating Paediatric obesity and hyperinsulinemia Several small clinical trials in different journal studies done used Metformin for weight reduction in children and adolescents age 8-18years who are obese with hyperinsulinemia this study showed beneficial treatment effect over placebo and significant reduction in hyperinsulinemia in 3months with change in BMI at 6months with no serious adverse events were reported, the most common was diarrhea, nausea and abdominal pain.

- J.A.D.A 2009
- J. Clin Endocrine Metab 2012, 2013
- J. Health Day News 2014

Bariatric surgery

Is reserved for children with morbid obesity threaten the child's health where lifestyle and medication have been evaluated but found not to be effective.

- Intragastric Balloon –to reduce gastric space.
- Gastric Band – stomach stapling to create smaller pre stomach pouch.
- Gastric sleeve (Sleeve Gastrectomy) - stomach reduces to 15% of its original size by surgical removal of large portion of stomach.
- Gastric Bypass – due to complex nutritional deficiencies occurring after these procedures have limited their use in children and adolescents.

- v. Jejunioleal Bypas
- vi. Biliopancreatic Diversion with duodenal switch



Due to high morbidity and mortality of this procedure they are not recommended

Acknowledgements

None.

Conflict of interest

The author declares no conflict of interest.