VALLEY MEDICAL GROUP
Prevention & Medical Care To Help You Live Better, Longer.

Pediatric Pearl *Date: 10/30/23*

Childhood obesity

As we all experience in our practice, childhood obesity is an epidemic. How to define it, what contributes to it, are there any labs one should order, and is there anything to do about it are questions I hope to shed some light on.

Childhood obesity has a complex etiology; there is intergenerational transmission, and racial / ethnic and socioeconomic disparities. This issue has had dramatic increases in the past 30 years, onset can occur in early childhood. Infant rapid growth and overweight strongly predict later obesity. There exists a much higher rate in children from lower income and minority families.

From birth - 2 yrs overweight is defined as > 97%, > 2SD above the mean. Rapid infant weight gain, crossing 2 percentile lines, over a 6 month period, is highly predictive of later obesity. Currently the incidence of childhood obesity is 14% of kids 2-5 yo, 20% of 6-18 yo. In poverty and minority groups the rates are as high as 28%.

Intergenerational transmission is a large factor, parental obesity and comorbidities are risk factors for the next generation. Women who are overweight at conception are more likely to have excessive gestational weight gain, develop gestational diabetes, HTN, operative deliveries, and deliver large or small for gestational age infants. All of these factors predispose the child to excess weight gain and obesity.

Parental infant feeding practices also contribute to the risk of childhood obesity. These include formula feeding, combination feeding vs exclusive BF, consuming sugar sweetened beverages, and high-energy dense foods. Early intro of solids and limited fruits and veggies are also risk factors . Certain parent - child feeding styles are also a risk, pressuring or restricting feeding, not following infant cues, indulgent feeding without appropriate limit setting, and uninvolved/inattentive feeding.

During later childhood and adolescence, lifestyle patterns of low physical activity, high screen time and inadequate sleep are also assoc. with obesity across the life cycle.

A secondary cause should be considered for an infant, child or adolescence with obesity and developmental delay, short stature, delayed puberty, early onset obesity or hyperphagia .These findings can lead to endocrine, developmental and genetic referrals and evaluations.

LAB EVALUATION

Fasting glucose, lipids and LFTs, follow up A1C if fasting BS elevated. Some recommend Vit D levels, as higher incidence of Vit D deficiency in obesity. Generally labs tests repeated annually for children with BMI >95%.

Evaluation for endocrine, neurologic or genetic syndromes indicated only if signs and symptoms are found.

HTN-10% of children with obesity have HTN. STAGE 1- Systolic or Diastolic >95%, or > 130/80, STAGE 2- > 140/90, Recommend BMP., UA, Microalbumin

Rx- weight management and salt reduction, refer if persistent or renal abnormalities

Prediabetes and DM2 -Up to 15% of adolescents with obesity have prediabetes or Type 2 DM, Rx weight management, dec CHO, may need meds.

Polycystic ovary Syndrome -5-10% of women of childbearing age have PCOS . Evaluate if BMI > 85%, irregular menses, hyperandrogenism.

Fatty liver -30-40% of children with obesity have NAFLD, screen for with LFTs. Refer if ALT >60 to assess for other causes.

Sleep apnea- Obesity is a risk factor for sleep apnea in 10-60% of these children . Assess for snoring, respiratory pauses and daytime sleepiness. ENT / Resp eval.

Musculoskeletal- Inc risk of Slipped capital femoral epiphysis, refer if hip, knee pain and abnormal gait

Pseudotumor cerebri-Refer if signs of increased intracranial pressure, e.g. Headaches or papilledema.

Depression and anxiety - screening for disordered eating (binge eating, bulimia, anorexia), depression and anxiety for all patients with obesity. Rates are 1.5-2
times higher in children with obesity.

TREATMENT

Behavioral interventions, -lifestyle modifications counseling (change in diet. Physical and sedentary activities and sleep habits) are the core treatments for Obesity of all ages and severity.

Pharmacotherapy and bariatric surgery are additional options for select patients.

Support from a dietitian, social worker, health educator or physical therapist can be helpful.

A multidisciplinary treatment program should also be considered.

SMART goals (Specific, Measurable, Achievable, Realistic and Time-based) are a way that goal setting can promote behavior change.

DIET- decrease portion size, increase fruit, vegetable and whole grain intake, decrease processed sugar and carbohydrate intake, increase water intake.

Physical activity - 60 minutes of moderate to vigorous activity daily.

Screen time - less than 2 hours daily for school age and adolescents, less than 1 hour for 2-4 yo, zero for kids less than 2 yo.

Sleep- optimal sleep is beneficial for weight loss : 12-16 hrs infants, 11-14 hrs for 1-2 yo, 10-13 hrs (naps included) for 3-5 yo, 9-12 hrs for 6-12 yo, and 8-10
hours for adolescents.

PHARMACOLOGIC Treatment options

3 FDA approved medications : Orlistat, Liraglutide, - for children over 12 yo and Phenteramine - for children over 16yo

Off label: Metformin - over 10 yo, Lisdexfetamine - starting at age 6, Topiramate, Semaglutide -

BARIATRIC SURGEY

AAP recommends bariatric surgery for youth with Class III obesity or Class II with severe comorbidities if no significant response to above interventions.

Three most common options 1. Roux-en-Y bypass 2. Vertical sleeve gastrectomy -most common, less complications 3. Adjustable gastric band - not so
common now due to inc complication rates.

Most patients are over 16yo and first have 6m of intensive interventions

PREVENTION

Promoting healthy behaviors throughout childhood is the mainstay of prevention. Progression of obesity is common .

David Slack and the Pediatric Committee.