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Tipping the Scales – Distribution of Body Mass Index in Adults with Congenital Heart Disease

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Introduction

Obesity is one of the world's biggest public health concerns. Weight control is important to preserve healthy living and avoiding secondary co-morbid conditions due to excess weight gain. In patients with adult congenital heart disease (ACHD) excess weight may be associated with worsening cardiac function.

We assessed the distribution of body mass index (BMI) of patients with ACHD attending the Yorkshire ACHD clinic and their associated cardiac pathology.

Methods

Retrospective database analysis of patients who underwent transthoracic echocardiography and who attended our ACHD clinic in 2008. All patients ≥ 16 years with structural heart disease were included. Severity of ACHD disease was graded according to the 2008 AHA/ACC guideline criteria. BMI ranges were categorised as ≤ 19 =underweight; 20-24 =normal; 25-29=overweight; ≥ 30 =obese. As a further analysis we will show the temporal changes in BMI between 2008 and 2013.

Results

475 patients (men=237) with ACHD were analysed. A similar number of men and women comprised the group. The distribution of severity of ACHD was similar between sexes.

Approximately half the cohort had a BMI ≥ 25 with 16% of men & 22% of women being obese. Six percent (n=29) of the cohort were morbidly obese (BMI ≥ 35). Almost 60% of patients (n=171) aged 31-50 years had a BMI which exceeded 25.

Over three quarters of patients had moderate or severe ACHD. Of the patients with severe ACHD a smaller proportion were overweight or obese but more were underweight compared to patients with mild/moderate severity ACHD. In a binary logistic model which included age, sex and ACHD severity, each 5 year increase in age was associated with a 20% relative increase in risk of reaching a BMI ≥ 25 .

Conclusions

There are epidemic numbers of patients in our ACHD population who are overweight or obese. Increasing age is associated with higher BMI. New strategies are required to help patients maintain a healthy weight.