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Assessment of suprailiac fat and arm-to-height ratio in obese children

Soha M. Abd El Dayem[1], Sohair B. Fayed[2], Marwa E. Abd Elmoniem[2], Mona R. Al-Naggar[2] and **Sabreen I Abulfadl[2]**
[1]National Research centre, Egypt
[2]Al-Azhar University, Egypt

Objective: To assess suprailiac ultrasonography, mid upper arm circumference and arm/height ratio in diagnosis of child obesity.

Patients and methods: The study included 50 obese children and 50 healthy controls with age and sex matched. All patients and control were subjected to history tacking, dietary evaluation, general examination. Anthropometric measurement was done in the form of weight, height, waist, hip, mid arm circumference and Suprailiac skin fold thickness. Calculations of body mass index (BMI), waist/hip ratio, waist/height ratio, mid arm, arm/height ratio were done. Abdominal ultrasound was performed for measurement of subcutaneous suprailiac adipose tissue.

Result: BMI, waist/height ratio, arm/height ratio, ultrasound and skin fold thickness measurements of supra iliac fat thickness was significantly higher in obese patients. Ultrasound suprailiac fat thickness had a significant positive correlation with BMI, waist/ height ratio, arm/ height ratio, suprailiac skin fold thickness. ROC curve of suprailiac skin fold thickness was found 99.2% at the cut-off point of > 4.2 (cm) with sensitivity of 96% and specificity of 98% while the AUC of ultrasound suprailiac fat thickness was found 96.6% at the cut-off point of > 3.4 with sensitivity 94% and specificity 100% with no statistically significant difference between the two methods of measures.

Conclusion: Midarm circumference and arm/height ratio, suprailiac fat thickness are accurate measurements of obese children. No statistical differences of ultrasonographic measurements of suprailiac fat sickness and suprailiac skin fold thickness in measuring supra iliac fat thickness.

Recent Publications

1. Soha Abd El Dayem1, Abo El Magd El Bohy, Mona Hamed, Solaf Ahmed. Follow up of value of the intrarenal resistivity indices and different renal biomarkers for early identification of diabetic nephropathy in type 1 diabetic patients. Open Access Macedonian Journal of Medical Sciences. 2017 Apr 15; 5(2):188-192.
2. Soha M Abd El Dayem, Abo El Maged El Bohy, Mohamed Ali, and Enass Moktar. Assessment of endothelial dysfunction, coronary and carotid atherosclerosis in type 1 diabetics. Research Journal of Pharmaceutical, Biological and Chemical Sciences 2017, 8 (3): 68-79.
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5. Dina M. Ahmed, Soha M. Abdel Dayem, Mona Abdel Kader, Rania H. Khalifa, Dalia H. El-Lebedy, Solaf A. Kamel, Shereen M. Shawky. Utilizing the KCNJ11 gene mutations in spotting Egyptian patients with permanent neonatal diabetes who can benefit from treatment shift. Lab Medicine 2017;0;1–5 www.labmedicine.com DOI: 10.1093/labmed/lmw067.

Biography

Soha Abd El Dayem is currently the professor pediatrics at National Research Centre. She completed M.B.B.CH from Cairo University; M.Sc. from Cairo University; MD from Cairo University. She is the member of Egyptian Society of Cardiology, Diabetes and Endocrinology Society for children in Egypt. She had received awards for scientific encouragement by the National Research Centre. She attended around 200 conferences of Cardiology and Diabetes. She has 50 papers published in an international Journal for cardiac diseases and diabetes. She shared in 13 local projects and 5 international projects. She also shared in 31 workshops and many convey. She is the reviewer in many journals and supervisor for many theses.

s_eldayem@yahoo.com