From Ancient Enigmas to Novel Paradigms: A Depiction of Multiple Symmetric Lipomatosis

Vlatka Pandžić Jakšić and Velimir Božikov

Department of Endocrinology, Diabetes and Metabolic Diseases, University Hospital »Dubrava«, Zagreb, Croatia

ABSTRACT

A rare case of multiple symmetric lipomatosis type 2 in a female patient was presented. New possible iconographic representations of multiple symmetric lipomatosis were considered and some metabolic aspects of this disease were reviewed.

Key words: multiple symmetric lipomatosis, paleopathology, obesity

Introduction

Since ancient times morbid conditions were portrayed by artists, most often without intention and any medical knowledge. They anticipated and sometimes surpassed descriptions in scientific world. This unique expressiveness of art objects contributed to the paleopathology as much as written medical scripts, pathography of historical persons or study of human remains1,2. The importance and richness of particular iconographic sources leded in 1983 to the introduction of the term iconodiagnosis3.

Being a disfiguring disease, the wide spectrum of iconographic representation of obesity exists in figurative arts and archaeological findings through the time. A different perception of obesity in particular civilization was reflected through the artist’s eye: for instance, in Greek figures as grotesque and despised, or in Etruscans as a symbol of wealth and well-being4,5. Particularly interesting have been figures from illiterate populations, statuettes of women, so called »stone-age Venuses«. They allowed Pontius, the founder of the term »iconodiagnosis«, to depict and differentiate between two main types of obesity: abdominal and gluteal4. On the other hand, archaeologists interpreted the most famous early image of a human, a woman called »Venus of Willendorf« as an ideal of beauty and fertility of this age. She had no other complaints relating to the excess of adipose tissue, but her weight increased since then 20 kg, reaching 83 kg with body mass index of 36 and waist circumference of 98 cm. The rest of her past history was unremarkable besides alcohol intake of about 40 g daily. Physical examination revealed obvious symmetrical fat deposits in upper arms and shoulders (Figure 1). She presented a characteristic pseudoathletic appearance but also exhibited prominent abdominal and lower part of the body obesity.

Case Report

We present a case of a 48 years old female patient who presented with characteristic clinical phenotype of type 2 MSL. She attended our endocrinology outpatient unit complaining on large masses on both her arms. The enlargement has especially increased in the last 3 months, but has appeared and has been slowly accumulating for at least 3 years, the time coinciding with the onset of her menopause. She had no other complaints relating to the excess of adipose tissue, but her weight increased since then 20 kg, reaching 83 kg with body mass index of 36 and waist circumference of 98 cm. The rest of her past history was unremarkable besides alcohol intake of about 40 g daily. Physical examination revealed obvious symmetrical fat deposits in upper arms and shoulders (Figure 1). She presented a characteristic pseudoathletic appearance but also exhibited prominent abdominal and lower part of the body obesity.
Routine laboratory evaluation disclosed evidence of chronic liver disease with two-fold increase of transaminases. Fasting cholesterol and its subfractions, as well as fasting triglycerides, were within the normal range. By performing oral glucose tolerance test and measuring hemoglobin A1c, we found no laboratory signs for diabetes mellitus. The measurement of fasting thyroid-stimulating hormone, cortisol, adrenocorticotropic hormone, IGF-1, prolactin, testosterone, luteinizing and follicle-stimulating hormone revealed no abnormalities but she had a relatively low estradiol level.

Microscopy of the sample obtained by cytological puncture revealed benign adipose tissue with normal cell diameter. Further examinations consisted of magnetic resonance that described the nonencapsulated adipose tissue in shoulder region with the largest diameter of 7 cm. Body composition determined by densitometry showed that she had 47.6 % body fat. Abdominal ultrasound confirmed hepatic steatosis. Electromyoneurography showed a beginning of motoric neuronal lesion in cervical and lumbar segment. The patient still considers whether to be operated and the method of choice would be liposuction8.

Discussion

The first studies of MSL go back to 1846 by B. C. Brodie, who described a picture of symmetrical lipomatosis, particularly in the neck9. In 1888 Otto W. Madelung clearly described the syndrome in 33 cases in his work «Ueber den Fetthals»10. In 1898 P. E. Launois and R. Bensaude wrote «De adénolipomatose simmétrique» and accurately presented 75 cases of such a rare disease11.

Besides being rare in clinical setting, the possible recognition of this disease in following archaeological findings engaged vivid discussions12,13. An ancient relief from Deir el-Bahri shows Queen of Punt offering gifts to the Queen Egyptian Hatshepsut (1473–1458 B.C.). Discerning the alleged pathological appearance of Queen of Punt, syndromologists found hyperlordosis, gluteofemoral obesity and symmetrically distributed deposits on the trunk, arms and thighs, sparing her face, neck, hands and feet. In the absence of her mummy, differential diagnosis of the Queen’s phenotype resulted in a puzzle of several pathologic entities, among others: steatopygy, myxoedema, rickets, bilateral congenital hip dislocations, achondroplasia, neurofibromatosis and finally MSL14.

The second example is the Capestrano Warrior discovered in Abruzzi region, a naturalistic monumental stone sculpture of the native Italic fighter being over two and one-half meters tall, from approximately sixth century B.C. The Warrior is sculpted with unnaturally big hips and wide shoulders and although some have considered it as eunuch, there has been undoubtedly striking resemblance with MSL6,13. From nearly the same period and from Germany, «Warrior of Hirschlanden» shows stylistic similarities to the Capestrano one. This fact was used in argument against pathological interpretation of their features13. However, unproportionally robust legs, slender upper body and tiny head of the «Warrior of Hirschlanden» might be characteristics of an other disorder, the acquired partial lipodystrophy (Barraquer-Simons syndrome) which consist of loss of fat from face, neck and trunk and accumulation of excess fat in the hips and the rest of lower limbs15.

In our research, Queen of Punt and Capestrano Warrior haven’t been the only possible iconographic representation of MSL. The well-known Gimbutas’ book on «Goddesses and Gods of Old Europe» has been a rich collection of pictures of Neolithic figures. Pontius used it in differentiating types of obesity and it allowed us to go a step further16.5. Bearing in mind the type 2 MSL clinical phenotype, we have found several figures with unnaturally wide shoulders and large arms, for example, from Sesklo, Thessaly in Greece, from sixth millennium B.C (Figure 2). They might have been inspired by pseudoaesthetical appearance of MSL as well16.5.

The enigma would remain whether these had been cases of MSL, other form of obesity or artistic pseudopathology. The reality of artist is not always a physical reality. The artistic regard originates from cultural and spiritual context and reflects broader aspects of the civilization16. Recognizing this nowadays-rare pathology in ancient sculptures might be burdened with controversies but even the occurrence of simple obesity in both Venuses from Paleolithic and Goddesses from Neolithic era is controversial. Obesity as a consequence of sedentary lifestyle is in contradiction with the actual way of life in that...
REFERENCES


Conclusions

We have presented here a case of type 2 MSL disorder, especially rare in females. Considering its strong similarity with simple obesity, we think that it might be an under recognized syndrome as well among famous Gimbuta’s «Goddesses of Old Europe» as in actual clinical practice. The particular pathognomonic appearance might be concealed or become less evident when occurring together with simple obesity, especially in older individuals. Critical but not skeptical approach to ancient art and other paleopathological data might allow us to expect further contributions to iconodiagnosis.

Until recently adipose tissue was regarded as a passive depot of lipids, but increasing evidence points to an important role of adipocytes as a complex and active endocrine organ and adipocytokines play a major role in whole body metabolism. MSL might present a captivating paradigm for new concepts in this field.
OD DREVNIH ENIGMA DO NOVIH PARADIGMA: PRIKAZ MULTIPLE SIMETRIČNE LIPOMATOZE

S A Ž E T A K

Opisan je rijedak slučaj bolesnice s multiplom simetričnom lipomatozom tipa 2. Razmotreni su novi mogući ikonografski prikazi multiple simetrične lipomatoze te su iznijete spoznaje o metaboličkim aspektima te bolesti.