Adiposità addominale: caratteristiche, eziopatogenesi, fattori di rischio e approccio terapeutico comportamentale

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Obiettivi:
Identificare le principali cause dell'incremento del grasso addominale e le patologie ad esso correlate al fine di suggerire un approccio comportamentale atto a prevenire e/o ridurre questo inestetismo.

Materiali e Metodi:
Sono state esaminate le pubblicazioni indicizzate su PubMed relative all'eziopatogenesi dell'aumento del grasso addominale ed ai fattori di rischio ad esso associati.

Risultati:
Il grasso addominale ha una duplice distribuzione, viscerale e sottocutanea, quantificabile con la Risonanza Magnetica o la Tomografia Computerizzata. Questi esami hanno evidenziato che nelle donne la localizzazione sottocutanea è maggiore rispetto agli uomini, in cui prevale quella viscerale (1). Tuttavia, con la menopausa quest'ultima aumenta anche nelle donne (2).
La distinzione tra i due compartimenti adiposi ha importanti conseguenze metaboliche, dal momento che l'incremento del grasso viscerale è correlato positivamente a steatosi epatica (3), colelitiasi (4), iperlipemie e placche coronariche (5), calcificazioni aortiche (6) e diabete mellito di tipo 2 (7). L'anovulazione è, invece, favorita dall'aumento del tessuto adiposo sottocutaneo (8).
L'alimentazione condiziona i depositi lipidici. In particolare, una dieta ricca in grassi saturi e/o in carboidrati favorisce l'aumento del grasso addominale sia viscerale che sottocutaneo (9). Di contro, un miglioramento dello stile di vita, inteso come riduzione dell'apporto calorico ed aumento del dispendio energetico di circa il 12,5%, favorisce la riduzione della massa grassa addominale e migliora i biomarcatori metabolici circolanti (10).

Conclusioni:
I trattamenti medico-estetici per l'adiposità localizzata agiscono sul solo grasso sottocutaneo. La concomitante presenza di adipe in regione viscerale impone un approccio multidisciplinare dell'adiposità addominale, caratterizzata da una sana alimentazione e dall'esercizio fisico.

Abdominal adiposity: characteristics, etiopathogenesis, risk factors and behavioral therapeutic approach

Objectives:
Identify the main causes of the increase in abdominal fat and the relationship with some diseases in order to suggest a behavioral approach to prevent and/or to reduce this imperfection.

Materials and Methods:
A systematic review of articles indexed to PubMed on the etiopathogenesis of abdominal fat increase and risk factors associated were included in this study

Results:
Abdominal fat has a dual distribution, visceral and subcutaneous. They are quantified by Magnetic Resonance Imaging or Computed Tomography. These methods have shown that women have a higher subcutaneous fat than men, in which visceral fat prevails (1). However, visceral fat increases after menopause too (2).
The distinction between the two adipose compartments has important metabolic consequences, because the increase in visceral fat is positively correlated with hepatic steatosis (3), cholecystolithiasis (4), hyperlipemia and coronary plaque (5), aorta calcification (6) and type 2 diabetes mellitus (7). Instead, anovulation is favored by the increase in subcutaneous fat (8). Nutrition conditions the lipid deposits. In particular, a diet rich in saturated fats and/or carbohydrates favors the increase of visceral and subcutaneous abdominal fat (9). On the other hand, an improvement in lifestyle, intended as a 12.5% caloric restriction plus 12.5% increase in energy expenditure, favors the reduction of abdominal fat and improves circulating metabolic biomarkers (10).

Conclusions:
Medical-aesthetic treatments for localized adiposity act only against subcutaneous fat. The concomitant presence of visceral fat requires a multidisciplinary approach to abdominal adiposity, characterized by hypocaloric diet and physical exercise.

1) N Xiaomin, X Yiting, M Xiaojing, X Yunfeng, W Yufei, B Yuqian. Association between Abdominal Fat Distribution and Free Triiodothyronine in a Euthyroid Population. Obes Facts. 2020;13(3):358-366. doi: 10.1159/000507709.

2) S Numao, Y Katayama, Y Nakata, T Matsuo, M Nakagaichi, K Tanaka. Association of abdominal fat with metabolic syndrome components in overweight women: effect of menopausal status. J Physiol Anthropol. 2020 Apr 19;39(1):12. doi: 10.1186/s40101-020-00222-0.

3) AY Meir, L Tene, N Cohen, I Shelef, D Schwarzfuchs, Y Gepner, H Zelicha, M Rein, N Bril, D Serfaty, S Kenigsbuch, Y Chassidim, B Sarusy, D Dicker, J Thiery, U Ceglarek, M Stumvoll, M Blüher, MJ Stampfer, A Rudich, Iris Shai. Intrahepatic fat, abdominal adipose tissues, and metabolic state: magnetic resonance imaging study. Diabetes Metab Res Rev. 2017 Jul;33(5). doi: 10.1002/dmrr.2888.

4) Y Zhang, TW Chen, XM Zhang, YX Wang, XX Chi, XH Li, XF Gao, YF Ji. Abdominal regional fat distribution on MRI correlates with cholecystolithiasis PLoS One. 2014 Oct 13;9(10):e109776. doi: 10.1371/journal.pone.0109776. eCollection 2014.

5) K Okada, K Hibi, Y Honda, PJ Fitzgerald, K Tamura, K Kimura. Association between abdominal fat distribution and coronary plaque instability in patients with acute coronary syndrome. Nutr Metab Cardiovasc Dis. 2020 Jun 25;30(7):1169-1178. doi: 10.1016/j.numecd.2020.03.017.

6) L Goldenberg, W Saliba, H Hayeq, R Hasadia, AR Zeina. The impact of abdominal fat on abdominal aorta calcification measured on non-enhanced CT. Medicine (Baltimore). 2018 Dec;97(49):e13233. doi: 10.1097/MD.0000000000013233.

7) MK Sarma, A Saucedo, CH Darwin, ER Felker, K Umachandran, D Kohanghadosh, E Xu, S Raman, MA Thomas. Noninvasive assessment of abdominal adipose tissues and quantification of hepatic and pancreatic fat fractions in type 2 diabetes mellitus. Magn Reson Imaging. 2020 Oct;72:95-102. doi: 10.1016/j.mri.2020.07.001.

8) WKH Kuchenbecker, H Groen, TM Zijlstra, JHT Bolster, RHJ Slart, EJ van der Jagt, AC Muller Kobold, BHR Wolffenbuttel, JA Land, A Hoek. The subcutaneous abdominal fat and not the intraabdominal fat compartment is associated with anovulation in women with obesity and infertility. J Clin Endocrinol Metab. 2010 May;95(5):2107-12. doi: 10.1210/jc.2009-1915.
9) AD von Frankenberg, A Marina, X Song, HS Callahan, M Kratz, KM Utzschneider. A high-fat, high-saturated fat diet decreases insulin sensitivity without changing intra-abdominal fat in weight-stable overweight and obese adults. Eur J Nutr. 2017 Feb;56(1):431-443. doi: 10.1007/s00394-015-1108-6. Epub 2015 Nov 28.
10) M Beekman, BAM Schutte, EB van den Akker, R Noordam, P Dibbets-Schneider, LF de Geus-Oei, J Deelen, O van de Rest, D van Heemst, EJM Feskens, PE Slagboom. Lifestyle-Intervention-Induced Reduction of Abdominal Fat Is Reflected by a Decreased Circulating Glycerol Level and an Increased HDL Diameter. Mol Nutr Food Res. 2020 May;64(10):e1900818. doi: 10.1002/mnfr.201900818.