VADEMECUM FOR HIV PATIENTS

ADDENDUM #3

PREVENTION AND MANAGEMENT OF LIPODYSTROPHY

Lipodystrophy, or "lipo" for short, is a collection of body shape changes in people taking antiretroviral medications. "Lipo" refers to fat, and "dystrophy" means bad growth. These changes include fat loss, fat deposits, and metabolic changes. *Fat loss* occurs in the arms, legs or face (sunken cheeks). This may be the most common feature of lipo. *Fat deposits* can show up in the stomach, the back of the neck (a "buffalo hump"), the breasts (in both men and women) or other areas. *Metabolic changes* can include increases in blood fats or lactic acid. Some people get "insulin resistance." There is no clear definition of lipo. As a result, health care providers report that between 5% and 75% of patients taking antiretroviral medications have some signs of lipo. Most researchers think the rate is about 50%. We here focus on the first two aspects of lipodistrophy: fat loss and fat deposit.

Lipoatrophy

Definition - It is the loss of fat in the face, arms, legs or butt. Although it generally does not endanger the physical health, it can be exceedingly damaging to the sense of self and even to the ability to function in public. Widely identified with the "AIDS look," severe facial lipoatrophy can "out" a person with HIV, leaving the person vulnerable to stigma, discrimination and worse.

Prevention - Avoid stavudine (d4T) and zidovudine (ZDV, AZT) or pre-emptively switch away from them.

Management

- Modification of HIV drugs:
    - Switch d4T or ZDV to abacavir (ABC) or tenofovir (TDF): only antiretroviral modification proven to partially restore subcutaneous fat; increase in total limb fat ~400-500g/year.
        - Note: possible risk of other toxicities from new drugs.
    - Switch to regimen not including nucleos(t)ide reverse transcriptase inhibitors (NRTIs): increase in total limb fat ~400-500g/year.
        - Note: may increase risk of dyslipidaemia.
        - Note: less data on virological safety.
- Surgical intervention offered for relief of facial lipoatrophy.
- Pharmacological interventions to treat lipoatrophy have not been proven to be effective and may introduce new complications:
    - Pioglitazone - possibly beneficial in patients not taking d4T.
    - Rosiglitazone and Pioglitazone - improvement in insulin sensitivity.
    - Rosiglitazone: increases in blood lipids and possible ischaemic heart disease.

Lipohypertrophy

Definition - Lipodystrophy-related fat gain, which doctors call "lipohypertrophy," is the opposite of lipoatrophy (fat loss). The most common parts of the body that fat gain strikes are the belly, breasts (especially for women) and neck.

Prevention

- No proven strategy.
- Weight gain expected with effective antiretroviral therapy and reflect “healthy” response.
- Weight reduction or avoidance of weight gain may decrease visceral adiposity.

Management

- Diet and exercise may reduce visceral adiposity:
    - Limited data, but possibly reduction of visceral adipose tissue and improvement in insulin sensitivity and blood lipids, especially in obesity associated with lipohyperthrophy.
    - No clear indication of the degree of diet and/or exercise needed to maintain reduction in visceral fat.
    - May worsen subcutaneous lipoatrophy.
- Pharmacological interventions to treat lipohypertrophy have not been proven to provide long-term effects and may introduce new complications. In particular:
    - Growth hormone:
        - Decreases visceral adipose tissue.
        - May worsen subcutaneous lipoatrophy, may worsen insulin resistance.
        - Tesamorelin (growth hormone realising factor), not currently licensed in Europe, was shown to reduce visceral adipose tissue volume.
    - Metformin:
        - Decreases visceral adipose tissue in insulin resistant people.
        - May worsen subcutaneous lipoatrophy.
    - Surgical therapy can be considered for localised lipomas/buffalo humps:
        - Duration of effect: variable.

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