METABOLIC SYNDROME AND DEPRESSION: IMPLICATIONS FOR CLINICAL MANAGEMENT

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METABOLIC SYNDROME (MetS) IS BECOMING MORE PREVALENT, AND DEPRESSION AND MetS MAY FREQUENTLY CO-EXIST. RECENTLY, EVIDENCE HAS BEEN ACCUMULATING THAT DEPRESSION, BUT NOT PSYCHOLOGICAL DISTRESS OR ANXIETY, IS MORE COMMON IN SUBJECTS WITH MetS THAN IN THE GENERAL POPULATION.[1,2]

Depression in MetS appears to be linked largely to central obesity but also to dyslipidaemia. The negative impact of depression on quality of life for people with diabetes, and increased care cost of comorbid depression have been widely recognized. It is not surprising that the evidence is gathering for the link between depression and MetS.

The direction of the relationship between depression and MetS is uncertain with at least one study showing that depression occurs after MetS,[2] but in studies with people who have diabetes it has been shown that sometimes depression precedes MetS. Mechanisms may include the effects of psychological conditions related to overweight and obesity, and lack of success among individuals attempting to lose weight through diet.[2]

These mechanisms fail to explain the link with dyslipidaemia. The pathophysiological basis is likely to be complex and may involve the inflammatory state that has been described as a consequence of central obesity. Psychosocial factors including depression can activate the hypothalamic-pituitary-adrenal (HPA) axis, producing hypersecretion of corticotrophin-releasing hormone, adrenocorticotrophic hormone, and cortisol. This dysregulation of the HPA axis promotes deposition of visceral adipose tissue which secretes inflammatory cytokines that have been implicated in insulin resistance. The proinflammatory response associated with depression may also have a direct effect on the dyslipidaemia. An alternative explanation is that central obesity with activation of inflammatory processes is the initiating step and depression is a consequence of the immune activation.[1]

The importance of depression in MetS

Depression has an adverse impact on diabetes outcomes. Given that diabetes is a complex illness that requires considerable self-care, depression makes it more difficult, and patients may get more complications, which increases morbidity and mortality. Even mild levels of depression have been shown to predict dropout from a diabetes prevention programme in which most of the participants had MetS. Those with depression who remained in the programme improved.[3]

Lifestyle modification through increasing physical activity and improving diet is the main feature of managing MetS in line with the goals of clinical trials for diabetes prevention. Adherence to lifestyle modification and pharmacotherapy will be adversely affected by depression.

Identification of depression

The simplest way to identify patients with depression is to use questionnaires to screen everyone with MetS because even mild levels of depression which would not be clinically evident can adversely affect adherence to therapy.

The most commonly used questionnaires are the Patient Health Questionnaire (PHQ-9), which has been designed to match the DSM-IV, and the Hospital Anxiety and Depression Scale (HADS), which is widely used in populations with medical illnesses. PHQ-9 is a nine-item self-report instrument. Each item has responses 0 (not at all) to 3 (nearly every day); nine items are summed to create a total score that ranges from 0 to 27. The threshold scores for mild, moderate, moderate-severe and severe depression are 5, 10, 15, and >19, respectively. The HADS comprises seven items assessing anxiety (HADS-A) and seven assessing the cognitive and affective components of depression (HADS-D). Responses to each item are scored 0 to 3; total scores range from 0 to 21, with higher scores indicating higher levels of anxiety and depression. Standard cutoff scores are used to classify normal (0-7), mild (8-10), and moderate-severe (11-21) levels of depression.

These questionnaires are available in many languages and can be completed by patients in a few minutes. Both questionnaires can

be used for screening in primary care or other clinical settings. Patients may find it easier to complete the HADS, its responses are less affected by levels of education, and physicians seem more prepared to accept the scores at face value.[4] Both questionnaires can be used for screening patients by mailing it to them but HADS is more suitable than PHQ-9 for self-administration.

Management of depression

It is important to ask about any previous history of depression, what kind of treatment was received, and discuss treatment options. Clinical depression among patients with diabetes has been associated with less physical activity, unhealthy diet, and lower adherence to medications. Lifestyle modification aimed at improving diet and physical activity should be continued. Diet recommendations concerning daily fibre and proportion of fat intake, especially saturated fat, are often omitted in discussions with patients. Physical activity itself has been shown to be beneficial in depression and should be emphasized.

Even patients with mildly elevated scores on either of these two questionnaires are less likely to achieve good clinical outcomes.[3] Patients in the mild range of HADS or mild to moderate range of PHQ-9 can be treated with psychotherapy. The favoured evidence-based therapies are cognitive behavioural therapy (CBT) and problem-solving treatment (PST) for depressive disorders. CBT uses structured procedures to assist patients to change unhelpful or unhealthy thinking habits, feelings and behaviours. PST takes a structured approach to help patients identify individual problems and achievable goals, and use their skills and resources to implement chosen solutions.

Patients with scores in the moderate-severe range may require treatment with antidepressant medication, psychotherapy, or both. Case management and follow-up of these patients is essential. Questionnaires should be repeated three monthly to check on the therapeutic response. At the end of the first three months of therapy, a PHQ-9 score should have improved by 50%. If not, medication should be increased.

Although there are effective treatments for depression with patients who have chronic medical illness, research has not yet identified a single treatment for depression that consistently leads to better medical outcomes in patients with diabetes. One of the most successful interventions for depression in primary care, the IMPACT model, has been adapted for diabetes and major depression.[5] It is a collaborative care model involving an individualized, stepped-care depression treatment programme

Two questionnaires are commonly used to identify patients with depression: the Patient Health Questionnaire and the Hospital Anxiety and Depression Scale

provided by a trained clinical nurse in collaboration with the primary care physician. Such models are increasingly advocated for patients with chronic disease and depression. They have been adapted for primary care in a number of different health care systems. Nurses who ordinarily see patients with diabetes for chronic disease management can be trained to screen for depression, to use problem-solving techniques for lifestyle modification in relation to diabetes and depression, and to act as the case manager for the patient. These nurses can be trained to monitor response to therapy, and where necessary, prompt physicians to increase therapy.

Although we know that outcomes in diabetes are poorer in people with depression, so far research has not been able to demonstrate that clinical outcomes can be improved through treatment of the depression. This paradox remains as an important area for researchers. We must keep in mind that while comorbid depression and MetS can be challenging to treat, successful outcomes are achievable. Depression in metabolic syndrome is just as treatable as it is in any other clinical population. We can improve depression among patients with chronic disease, and that in itself is worthwhile.

References

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