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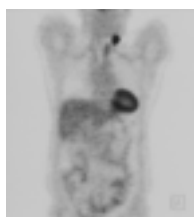
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Cover Picture:

PET image of a hypermetabolic left cervical lymph node in a 65-year-old woman. This lesion was surgically removed and histologically proven to be papillary carcinoma. (Refer to pages 297-301)

Eating disorders in Singapore: coming of age

E K Ung

The three articles on aspects of eating disorder and disordered eating published in this issue of the Singapore Medical Journal represent a coming of age of these disorders locally in more ways than one⁽¹⁻³⁾. Eating disorders are the archetypical chronic severe disabling disorder – they attack when a person is in the prime of her life (eating disorders are predominantly a female affair – most studies suggest a 10-20:1 female-to-male ratio), disable the sufferer severely but stop short of killing her (although anorexia nervosa does carry a 10-15% risk of premature death), and may go on for a long time.

Eating disorders and disordered eating are a growing problem in Singapore and the three articles provide an important database of information to offset the dearth of such local research in recent years⁽¹⁻³⁾. The recent setting-up of a multidisciplinary focused inpatient and day patient unit at the Singapore General Hospital also suggests that eating disorder treatment is finally coming of age in Singapore. Clinical guidelines and pathways have been developed for many conditions locally and there are such guidelines assisting in the treatment planning and decision making process for eating disorders in the United States, Australia and Europe. It is timely for local clinical guidelines to be presented and implemented as a further coming of age for these disorders.

The paper by Lee et al⁽¹⁾ is the largest study of anorexia nervosa to date in Singapore, with a respectable 126 cases. The only other relatively-sizeable local study on eating disorders reported on a more heterogeneous patient base (50 patients with bulimia and anorexia nervosa)⁽⁴⁾. Both studies strongly suggest that eating disorders locally are not different from eating disorders found in the West. One of the sobering findings is the dramatic 4-6 fold increase in cases from 1994 to 2001 and 2002 (the last two years of the study) – a less than welcome coming of age for eating disorders locally. Increases in presentations for eating disorders appears to be fairly common finding worldwide but whether it represents a true increase in incidence or merely better case detection and more willingness to present for treatment remains unconfirmed.

Hoek and van Hoeken reviewed the literature on incidence and prevalence of eating disorders and concluded that the average prevalence of anorexia nervosa in young females was 0.3%. It was 1% for bulimia and 1% for binge eating disorder⁽⁵⁾. There is no strong reason to believe that the prevalence in Singapore is very far off these rates. They went on to conclude that the incidence rate of anorexia nervosa, particularly in young females aged 15-24 years, definitely increased over the past century until the 1970s. A quote from a recent review paper sums up the situation clearly: “Perhaps of more immediate relevance to

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healthcare providers and clinicians is the fairly widespread observation that over the past decade there has been an increase in the numbers of children and adolescents presenting for treatment, and that healthcare expenditure in relation to eating disorders has risen significantly⁽⁶⁾.

The mean age, clinical features and comorbid conditions found in Lee et al's study⁽¹⁾ were very much similar to findings and figures in other studies, local as well as western. Although Lee et al describe a prominent "non-fat phobic" subgroup in their Hong Kong cohort⁽⁷⁾, neither the present study nor the one by Ung et al⁽⁴⁾ were able to find, in a significant way, such sufferers. This strongly suggests that eating disorders are generally the same the world over. One finding from the study that will provide some food for thought for clinicians as well as public health planners is the seven patients that cited selection for the Trim and Fit (TAF) programme as a clear precipitant to their eating disorder.

As far as I know, Singapore is the only country where there is a compulsory nationwide obesity programme in schools. There is much to commend such a nationwide effort to reduce what are becoming epidemic proportions of obesity in our young but we must remain cognizant of its effects to precipitate eating disorders in a small vulnerable minority. Teachers and those who oversee such programmes are in a unique position to identify these vulnerable individuals and refer them for help. Well-designed prospective, outcome and prevalence studies would be the next step forward to further the local research database.

The paper by Tey et al⁽³⁾ on refeeding oedema in anorexia nervosa is a timely reminder that eating disorders are both psychological and physical disorders, and carry significant morbidity and mortality. Many of the clinical features of anorexia nervosa are secondary to a starvation state and the body's adaptation to this^(8,9). These include: amenorrhoea, delayed puberty, atrophic vaginitis, breast atrophy, cardiac muscle wasting, constipation, decreased anti-diuretic hormone secretion, hypercholesterolaemia, hypophosphataemia, increased basal growth hormone, hypercortisolaemia, osteopaenia, pancytopenia, bradycardia, hypotension and hypothermia. Some symptoms are the effects of purging, such as: cardiac arrhythmia, chronic hypovolaemia, metabolic acidosis (with laxative abuse), metabolic alkalosis (with vomiting), dental enamel erosion, oesophagitis, hypocalcaemia, hypokalaemia, hypomagnesaemia, hypophosphataemia, Mallory-Weiss tears, parotid gland hypertrophy, pneumothorax and Russell's sign (callous on knuckles from use of fingers to induce vomiting). Serious complications secondary to bingeing are rare but can be catastrophic when they occur, e.g. oesophageal or gastric rupture.

Ironically, some symptoms are the result of treatment. In our efforts to help, we can sometimes harm and even kill patients. Over-enthusiastic refeeding may precipitate a "refeeding syndrome" characterised by cardiovascular collapse and even death⁽⁹⁾. Fortunately, refeeding oedema is a more benign sequelae. Oedema in the refeeding or early weight restoration stage of anorexia nervosa is not uncommon and a source of much anxiety to stick-thin young girls trying to recover who suddenly experience different parts of their body "ballooning" out (e.g. the face or feet). Tey et al⁽³⁾ take us through the possible causes of refeeding oedema and outline possible lines of management. Fortunately, as this case illustrates as well as in our own experience, the oedema subsides by itself after some time.

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The paper by Lew and Barlow⁽²⁾ looks into dietary practices in a cohort of Malaysian and Singaporean adolescents. As the age range used was from 11 to 21 years, the results would probably reflect dietary practices in young adults as well. The "snapshot" picture is of a typical adolescent who eats 3-4 meals a day, eats at a western fast food restaurant once a week, drinks sweetened drinks 2-5 times a week, and snacks 3-5 times a week. It is interesting that only 7.2% of Singaporean adolescents admitted to being on a fat-modified diet. One wonders about the veracity of adolescent self-reports as "dieting" (at some time or other) in adolescent and young adult females appears to be the rule rather than the exception.

The three papers published in this issue of the journal reflect the richness and complexity of eating disorders⁽¹⁻³⁾. Eating disorders are international disorders that cut across cultures, and anorexia nervosa has been observed in every non-western region of the world⁽¹⁰⁾. The similarities are far more striking than the differences. Keel and Klump, in their review, concluded that bulimia nervosa has a stronger evidence base for being a culture-bound disorder compared to anorexia nervosa⁽¹⁰⁾. It is perhaps best to view the influence of culture on a spectrum, with cultural factors having an influence in anorexia nervosa and even more so in bulimia nervosa.

In a recent comparative study of eating disorders in Sydney and Singapore, Soh et al did not find any differences in the body shape questionnaire (measuring body image dissatisfaction) in patients with eating disorders in Sydney and Singapore⁽¹¹⁾. Scores for Singaporean eating disorder patients were in between scores for the control groups and the Sydney eating disorder patient group. Their preliminary conclusion was that body image dissatisfaction was not associated with affiliation to western culture.

Much of the research in eating disorders is from western countries and these three studies will add to the growing database of eating disorders in non-western countries. We salute those heroes who work with those suffering eating disorders, and those heroes who suffer eating disorders and have overcome or are in the process of overcoming this most hideous of disorders. **SMD**

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