Eating Disorders and Diabetes

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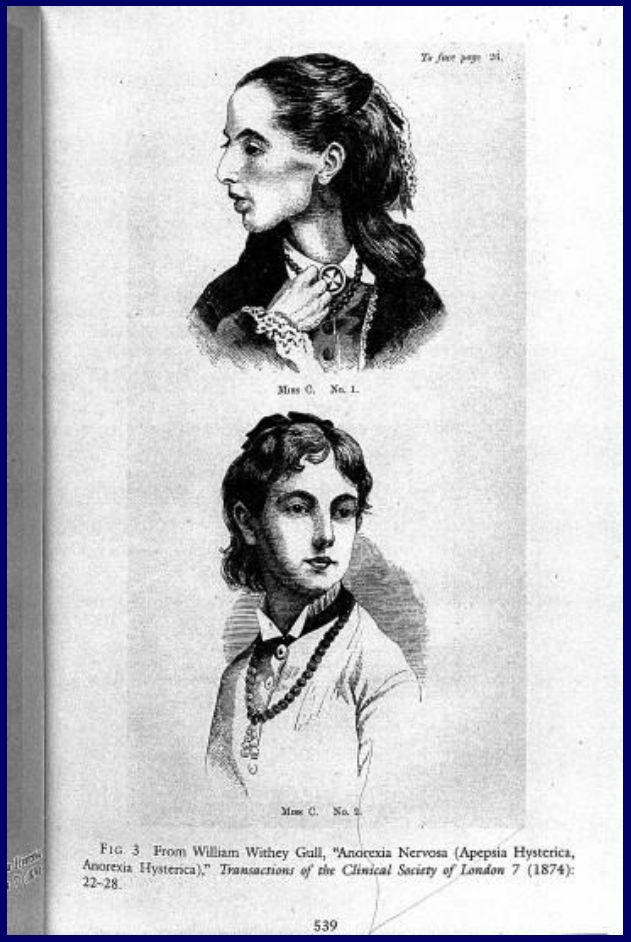
Outline

- Overview of eating disorders
- Eating disorders and type 1: “Diabulimia”
- Eating disorders and type 2

Principal Eating Disorders

- Anorexia nervosa
- Bulimia nervosa
- Binge eating disorder



Clinical Features of Anorexia Nervosa

- Intentional weight loss
- BMI less than 17.5 kg/m^2
- Intense fear of fatness
- Disturbance of body image

Clinical Features of Bulimia Nervosa

- Repeated binge eating and attempts to compensate for this
  - Vomiting
  - Use of laxatives or other drugs
  - Periods of starvation
  - Exercise

- Weight usually within normal range but may be under- or overweight

Binge Eating

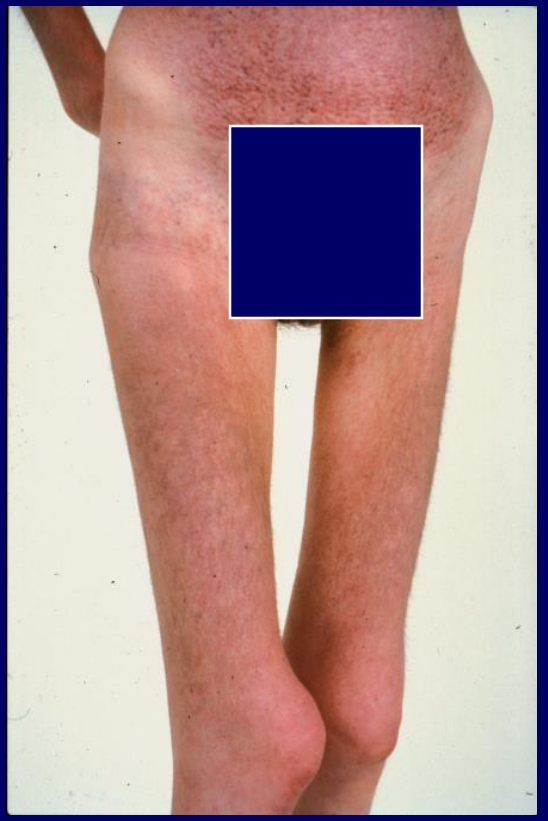
- *"An amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances"*
- Often "forbidden" foods with high carbohydrate content
- Usually followed by intense feelings of guilt which can only be relieved by vomiting, laxatives or self-starvation

Binge Eating Disorder

- Characterised by binge eating without compensatory behaviours
- Patients usually overweight

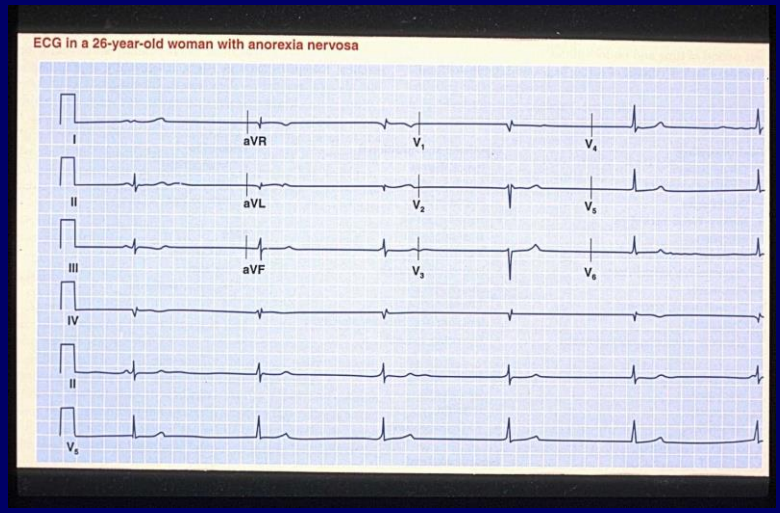
Medical Complications of Eating Disorders

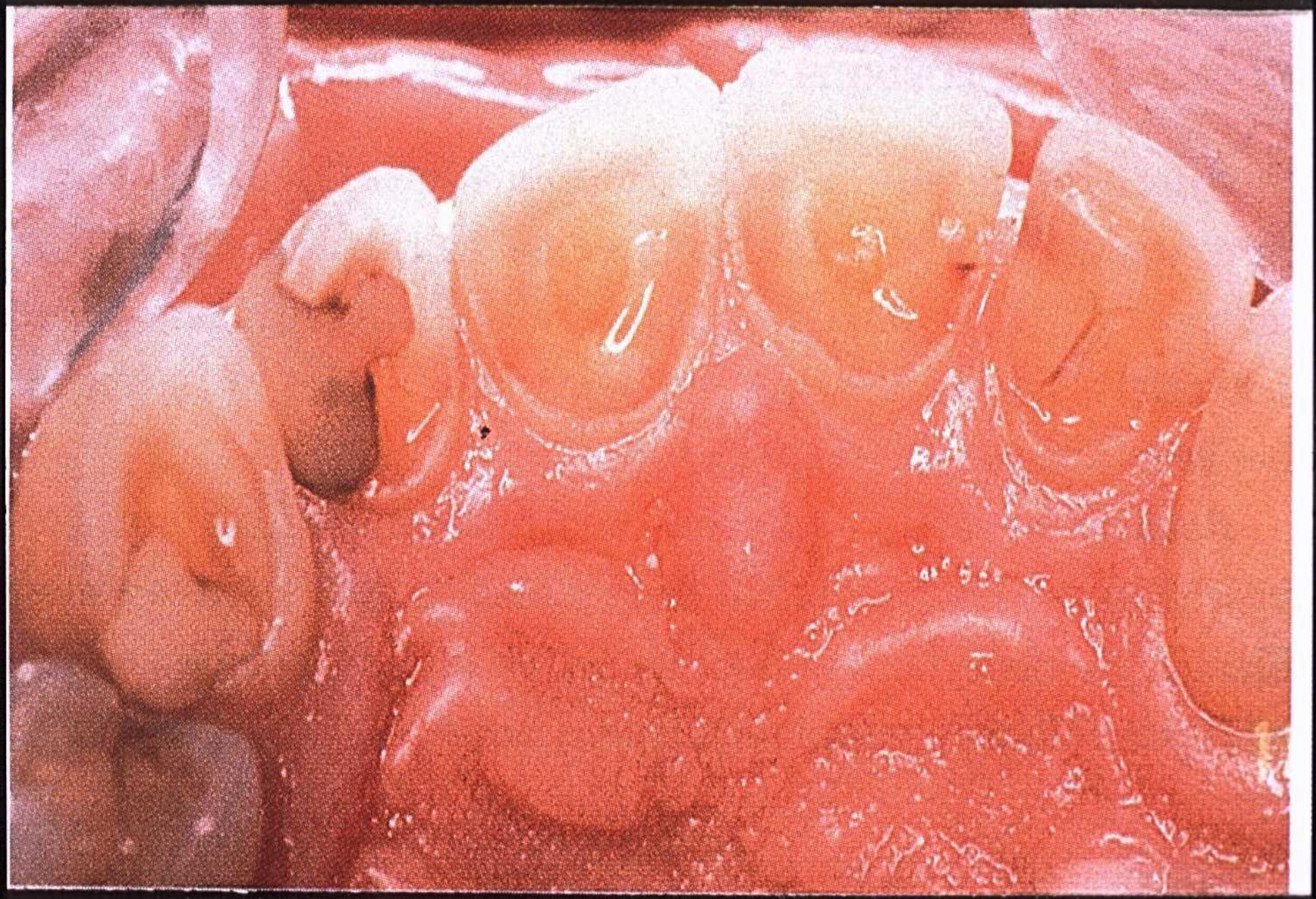
- Any physiological system can be affected
- Some complications result of malnutrition
- Others secondary to weight regulatory behaviours
- Complications of obesity

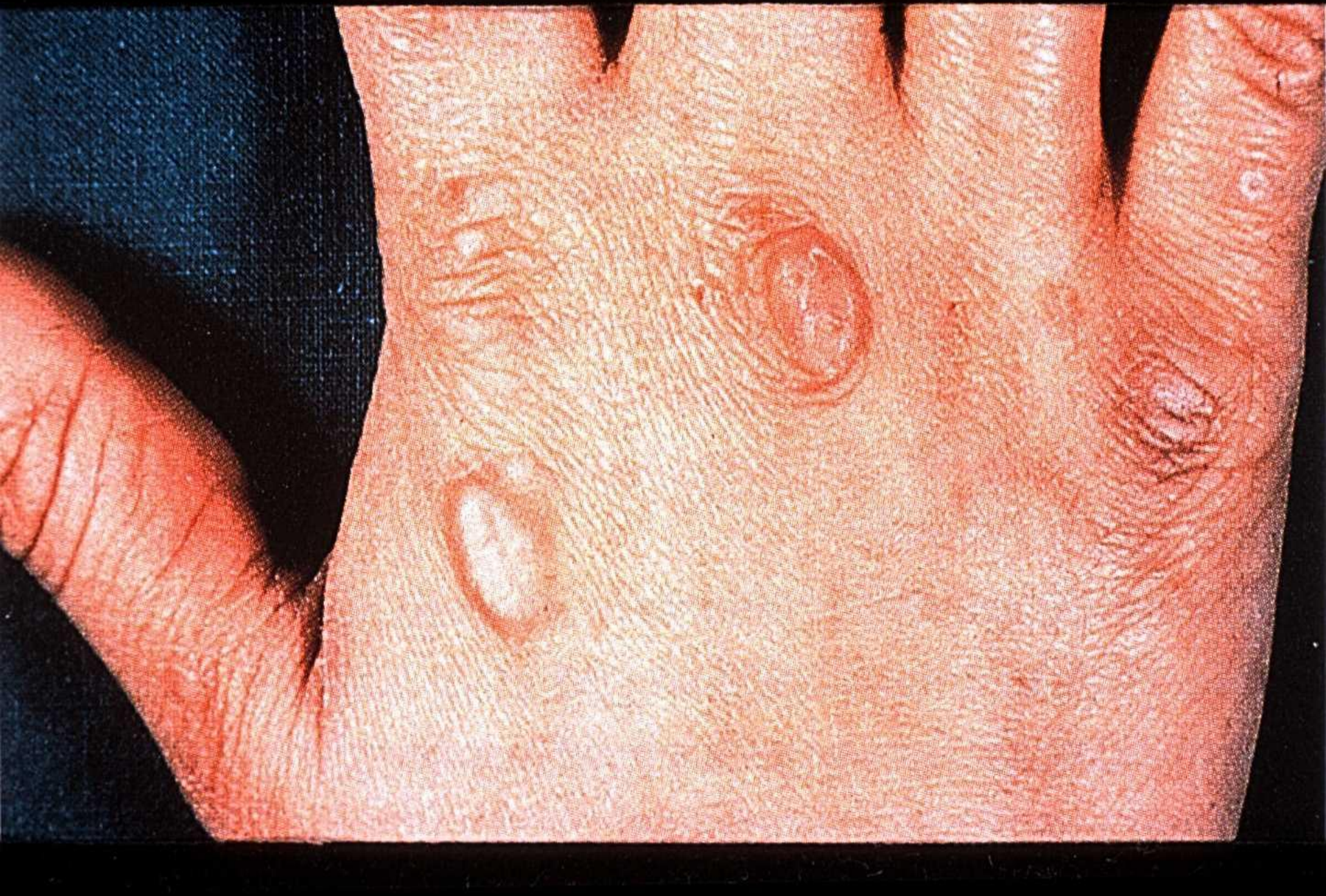


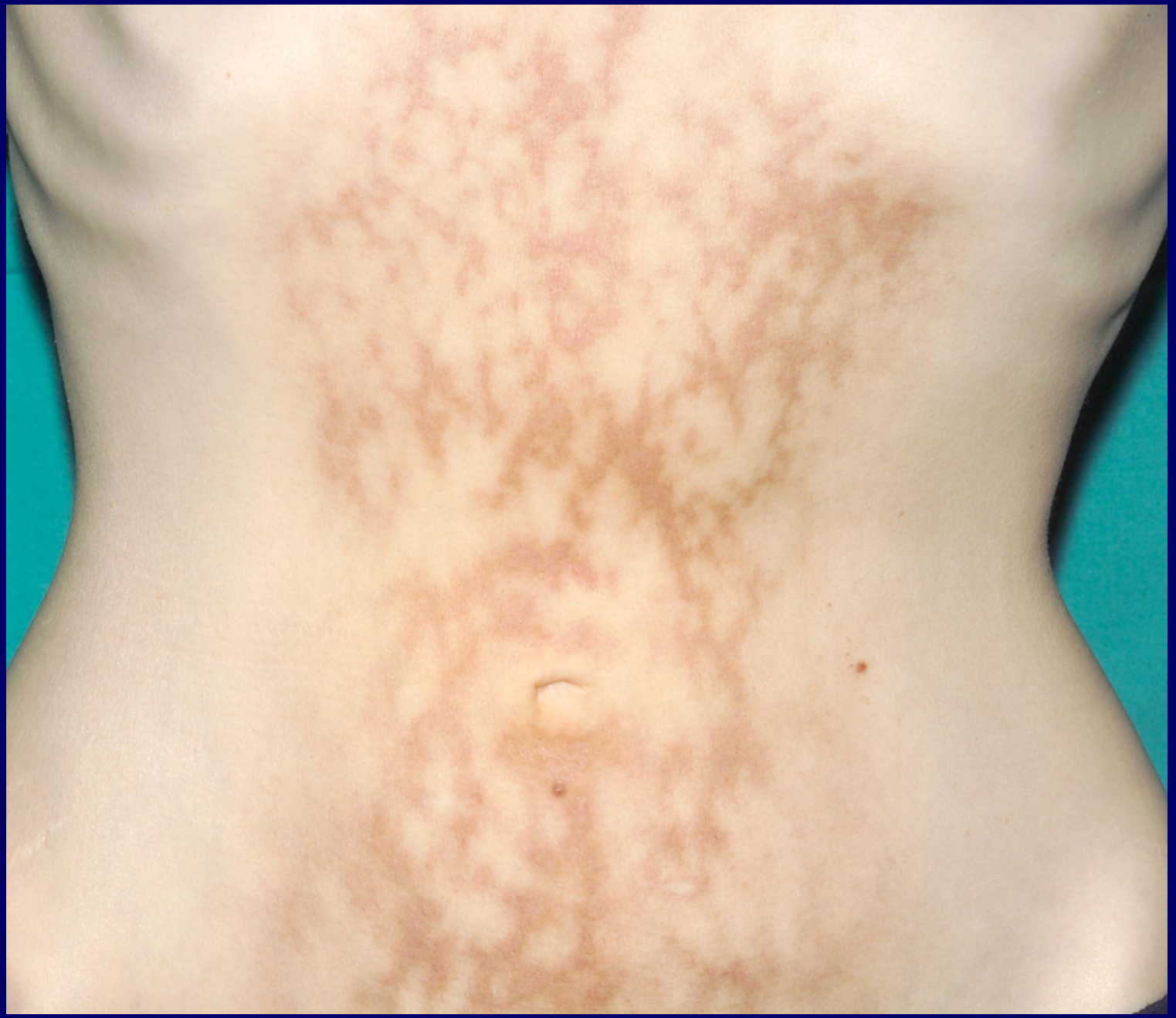
Important Complications

- Hypokalaemia
- Oesophagitis
- Cardiac arrhythmias and sudden death
- Amenorrhoea
- Osteoporosis









Eating Disorders and Diabetes

Eating Disorders and Diabetes

Type 1

- "Diabulimia"
- Hallmark is use of insulin restriction to control body weight
- IR highly effective at promoting weight loss
- Other disordered eating behaviours
  - Dietary restriction
  - Self-induced vomiting
  - Binge eating

Type 2

- Usually binge eating disorder
- Often overweight

Eating Disorder and Type 1 "Diabulimia"

- Increased prevalence of eating disorders in type 1 diabetes
- 10% in Canadian adolescent females with diabetes and 4% in non-diabetic controls

  (Jones et al, 2000)
- 11.5% in Austrian adolescent girls and 0% in boys

  (Grylli et al, 2004)

Why?

- Diabetes management emphasises the importance of food from the outset
- Having diabetes can itself be stressful
- Anxiety and sense of not being in control of one's body may contribute to an increased need for control in other areas
- Many young patients resent the way in which it impacts on social activities and sets them apart from peers
- Diet and diabetes management can be a battleground for adolescent conflict with parents

Consequences

- Combination of type 1 diabetes and an eating disorder leads to elevated HbA1c and increases:
  - Risk of acute and chronic complications
  - Episodes of ketoacidosis
  - Admissions to hospital
  - Length of hospital stay
  - Mortality

- Standardized mortality rates:

Type 1 diabetes	4.06
Anorexia nervosa	8.86
Both disorders	14.5

(Nielsen et al, 2002)

Insulin Restriction

- High prevalence of complications primarily due to the widespread use of insulin restriction (IR)
- Up to 40% of adolescent and young women with type 1 diabetes admit to insulin restriction
- IR associated with increased levels of emotional distress and more negative attitudes towards diabetes

Warning Signs in People With Diabetes

- Young, female
- Unexplained poor control
- Multiple admissions with DKA
- Emotional difficulties/depression
- Problems accepting diagnosis of diabetes
- Weight and shape concerns
- Under/overweight

Screening

- **NICE guideline on type 1 diabetes in adults (2015)**
- Diabetes professionals should be alert to the possibility of eating disorders and consider early referral to eating disorder services

- Screening is rarely carried out in practice
- Many diabetes professionals lack the skills, confidence and time to raise the issue with their patients

Warwick Screen for Eating Disorders and Diabetes

Within the last three months have you:

Reduced your dose of insulin in order to lose weight?	2
Overeaten until you felt uncomfortably full?	1
Reduced the amount you eat in order to lose weight?	1
Made yourself sick or taken laxatives or other drugs in order to lose weight?	2

BMI 17.5 kg/m^2 or less	2
BMI 17.6-20 kg/m^2	1
BMI more than 30 kg/m^2	1
HBA1c more than 10%	1

A score of 2 indicates moderate probability of eating disorder and threshold for further diagnostic assessment. A score of 3 or more indicates high probability of eating disorder

Treatment

- Effective early treatment can reduce morbidity and mortality
- Significant cost savings due to high rate of complications and consequent use of health services
- Treatment needs to address insulin use and glycaemic control as well as eating, vomiting, laxatives etc

Clinicians need:

- Knowledge of both eating disorders and diabetes
- Understanding of interaction between eating, mood, metabolic control and insulin dose

But…

- Very little specialist provision
- Only two centres in England which offer specialist clinics for patients with diabulimia

Warwick Clinic for Eating Disorders and Diabetes

- Established in 2011 as first in the country
- Consultant, senior specialist nurse and specialist dietitian
- Treats both type 1 and type 2

Tony Winston
Consultant

Lynette Fellowes
Specialist Nurse

Roxanne McNaughton
Specialist Dietitian

Warwick Treatment Model
Type 1

Detailed assessment

- Eating patterns
- Diabetic control and complications
- Nutritional status
- Underlying psychological problems

The Aspen Centre, Warwick

- Individual therapy
- Regular multidisciplinary reviews

- Close liaison with diabetes professionals
- Diabetes management remains with the patient's own diabetes team

Overall Approach

- Principal aim of treatment is to normalise eating and insulin use
- Initial phase of treatment usually focusses on building a trusting relationship with the patient
- Therapeutic approach is broadly exploratory
- Elements of cognitive-behavioural therapy

Elements of Treatment

- Exploration of the patient's feelings about having diabetes and the effect on their life
- Challenge dysfunctional beliefs about eating (eg carbohydrate is bad)

- Many patients have disengaged from services and lack knowledge about how to manage their diabetes
- Education about self-management often required
- Supporting the patient to re-engage with diabetes services is an important goal

Metabolic Management

- Address fear that taking insulin regularly will lead to uncontrolled weight gain
- Some degree of weight gain is inevitable but can usually be managed with appropriate preparation and support

- Many patients avoid checking their blood glucose and need encouragement to start
- Tight metabolic control not an appropriate goal in the early stages of treatment
- “Permissive” approach to blood glucose is generally reasonable

(Brown and Mehler, 2014)

Eating Disorders and Type 2 Diabetes

- Received relatively little attention to date

- Prevalence rates of eating disorders in type 2 diabetes range from less than 5% - 9%
- Binge eating disorder most commonly diagnosed disorder

- Patients with BED and T2 tend to have higher body mass index (BMI) scores but no increase in HbA1c

Warwick Treatment Model Type 2

- Based on two phase model

Phase 1

- Engage the patient
- Explore underlining psychological difficulties, including feelings about diabetes and obesity
- Often need for diabetes education
- Identify emotional triggers to binge eating
  - Depression
  - Loneliness
  - Anger
  - Boredom

- Encourage regular testing in those who are not
- Establish whether hypoglycaemia is contributing to binge eating
- Explain relationship between mood, hunger and blood glucose

- Establish regular eating pattern and address fear of weight gain
- Regular intake of carbohydrate is key to reducing urge to binge
- Support patient to take insulin consistently and avoid rapid blood sugar changes

Phase 2

- Begins when patient is eating regularly and not bingeing
- Introduces active weight management, supervised by dietitian
- Graded exercise programme, supervised by physiotherapist
- Regular multidisciplinary reviews

Take Home Messages

- There is an increased prevalence of eating disorders in people with type 1 diabetes
- Insulin restriction is common
- There is an increased risk of acute and chronic complications

- Binge eating disorder probably contributes to obesity in type 2 diabetes
- We need to improve detection of eating disorders in diabetes
- Improved awareness and more training

Video

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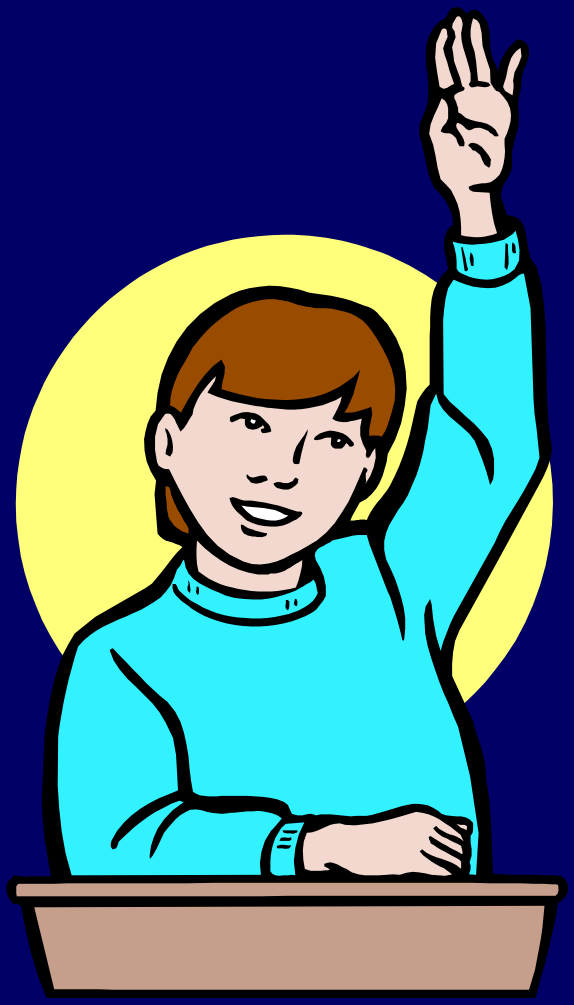
Discussion



How Common Are Eating Disorders?

Anorexia Nervosa
0.2-0.8% of young women

Bulimia Nervosa
1% of among young women

Binge Eating Disorder
1.5- 3% in general population
30-40% of those seeking treatment for obesity