One in four obese children with acanthosis nigricans have impaired glucose control

Clinical question How often do obese children with acanthosis nigricans (AN) have diabetes or other impairments of glucose control?

Bottom line Twenty-nine percent of obese children with AN have impaired glucose control compared with 12% of obese children without AN. These children are also more likely to have elevated BP and are less likely to exhibit delayed physical development. (Level of evidence = 2b–)

Synopsis These authors recruited children from primary care pediatricians' offices. They do not report how the children were selected beyond their inclusion criteria: aged 8 to 14 years, no corticosteroid use for at least 1 month, and no chronic disease associated with autoimmune disorders. All children underwent assessments including demographic, socioeconomic, and medical information, including BP, family history, anthropomorphic assessments, Tanner staging, and a quantitative assessment of their necks to assess the presence or absence of AN. Finally, all children consumed a diet rich in carbohydrates for 3 days and completed a glucose tolerance test (GTT). The authors used the American Diabetes Association criteria for abnormal glucose homeostasis: any combination of impaired fasting glucose, impaired glucose tolerance, or diabetes on the basis of the GTT. They identified 236 children with AN and 51 without AN. Only one child had a normal body mass index (BMI); 14 had a BMI between the 85th and 95th percentile. Although the prevalence of overweight and obesity among American children is high, the proportion in this study seems excessive, raising a concern about recruitment bias. The BMI z-score (a way of comparing BMI across different age groups) was nearly the same in children with AN and children without AN (2.3 vs 2.1). Among the children with AN, 27% had systolic BP above the 95th percentile compared with 14% of the children without AN. Although the average age of each group was the same, only 18% of the children with AN were prepubertal by Tanner staging compared with 41% of the children without AN. Finally, 29% of the children with AN had abnormal glucose homeostasis compared with 12% of those without AN. Because clinicians are wired to look for AN in obese children, these data may be skewed. We need a study in which clinicians assess consecutive children in the same systematic manner as in this study so we can estimate the overall prevalence of AN, regardless of weight, and its association with impaired glucose control.

Brickman WJ, Huang J, Silverman BL, Metzger BE. Acanthosis nigricans identifies youth at high risk for metabolic abnormalities. *J Pediatr.* 2010;156(1):87-92.

Daily aspirin has limited benefit in patients with diabetes

Clinical question In patients with diabetes but no cardiovascular disease, does daily aspirin treatment reduce the risk of cardiovascular events?

Bottom line Aspirin does not reduce the likelihood of cardiovascular events in patients with diabetes without preexisting disease, except to decrease the risk of MI in men. We do not need to specifically target patients with diabetes for aspirin therapy; instead, we can treat them just as we would treat any other patient. (Level of evidence = 1a)

Synopsis Although the concept has been refuted that diabetes confers a similar risk of heart disease as patients who have had a previous MI (*Diabet Med.* 2009;26[2]:142-148), some groups recommend aspirin be given to all patients with diabetes. The researchers producing this meta-analysis searched two databases, including the Cochrane central register, as well as reference lists of identified articles, limiting their search to English-language articles. Two authors independently identified eligible trials and extracted the data. They identified six trials enrolling a total of 10,117 patients with diabetes and used various dosages of aspirin. The aspirin did not produce any significant reduction in the risk of major cardiovascular events, cardiovascular mortality, or all-cause mortality. Heterogeneity was found among the data of the effect on MI, with men benefitting (relative risk = 0.57; 95% CI, 0.34-0.94) but not women. A similar meta-analysis published at the same time found the relative benefit of aspirin to be similar in patients with and without diabetes (*Diabetes Care*. 2009;32[12]:2300-2306).

De Berardis G, Sacco M, Strippoli GF, et al. Aspirin for primary prevention of cardiovascular events in people with diabetes: meta-analysis of randomised controlled trials. *BMJ.* 2009;339:b4531.

Acute-onset visual floaters and flashes is linked to retinal detachment

Clinical question Are adults with acute-onset visual floaters and flashes at risk for retinal detachment?

Bottom line The prevalence of retinal tears in adults with acute-onset floaters or flashes is 14% (95% CI, 12%-16%). There is no significant association between older age or myopia and increased risk of retinal tear. The presence of subjective vision reduction significantly increases the likelihood of retinal tear (positive likelihood ratio [LR+] = 5.0; 3.1-8.1; negative likelihood ratio = 0.60; 0.49-0.73). (Level of evidence = 2a)

Synopsis Acute-onset visual floaters and flashes are usually caused by posterior vitreous detachment (PVD). PVD is an age-related event that is most often a benign occurrence without any visual complications. However, some patients with acute PVD have an associated retinal tear that can result in permanent vision loss if left untreated. These investigators searched MEDLINE, EMBASE, and relevant references of retrieved articles for studies reporting outcomes and related elements of the history or physical examination for patients referred from their primary care physicians or optometrists with an acute onset of floaters or flashes of suspected ocular origin. The overall prevalence of retinal tears in patients with acute-onset floaters or flashes is 14% (12%-16%). There is no significant association between older age or myopia and increased risk of retinal tear. The presence of subjective vision reduction significantly increases the likelihood of retinal tear. On slit lamp examination, the presence of vitreous hemorrhage (LR+ = 10; 5.1-20) or pigment (LR+ = 44; 2.3-852) also increases the likelihood of retinal tear. Patients initially diagnosed with uncomplicated PVD have a 3.4% chance of retinal tear within 6 weeks. The risk of subsequent retinal tear is increased with the sudden appearance of at least 10 floaters (LR+ = 8.1-36) or subjective visual reduction (LR+ = 2.3-17).

Hollands H, Johnson D, Brox AC, et al. Acute-onset floaters and flashes: is this patient at risk for retinal detachment? *JAMA* 2009;302(20):2243-2249.

H1N1 pandemic flu symptoms are generally mild, brief

Clinical question What are the clinical features of the H1N1 pandemic influenza?

Bottom line Symptoms of the 2009 H1N1 pandemic influenza were generally mild and lasted only a few days in most patients. Viral shedding occurs for a mean of 6 days. (Level of evidence = 2b)

Synopsis The government of China attempted to identify all cases of pandemic H1N1 influenza within their borders. Patients with confirmed cases were quarantined and closely observed. This provided an opportunity to systematically observe patients with pandemic influenza and determine the typical features and course of the infection. The average age of patients was 23 years, and cases were fairly evenly divided between men and women. Only 6.1% of patients were older than 50 years, and only 3.5% were younger than 5 years; most had recently traveled to North America or Australia. Approximately two-thirds of patients had fever and cough, the most common symptoms, with a duration of fever of 3 days (range = 1-11 days), and viral shedding for a mean of 6 days (range = 1-17 days). Hypokalemia (25%) and lymphopenia were common; the latter was observed in 68% of adults and 92% of children. Less than one third had an elevated C-reactive protein or sedimentation rate, and abnormalities on chest radiography were rare. Chest pain, conjunctival congestion, nausea, vomiting, and diarrhea were also rare (<5% of patients). Chills and myalgias were uncommon, occurring in approximately 7% to 10% of patients. The median incubation period was 2 days, with a range of 1 to 7 days.

Cao B, Li X-W, Mao Y, et al; National Influenza A Pandemic (H1N1) 2009 Clinical Investigation Group of China. Clinical features of the initial cases of 2009 pandemic influenza A (H1N1) virus infection in China. *N Engl J Med*. 2009;361(26):2507-2517.

Elderly with higher BMI have lower mortality risk

Clinical question What is the relationship between body mass index (BMI) and mortality in the elderly?

Bottom line In the elderly, increased BMI is associated with a lower risk of death. This study adds to the growing amount of research that indicates that bigger is better among the elderly. (Level of evidence = 1b)

Synopsis These authors present data from the Jerusalem Longitudinal Study, which follows a cohort of Western Jerusalem residents born in 1920-1921. The residents were first evaluated in 1990 and subsequently in 1998 and 2005. Each participant in the study underwent a two-part assessment. The first part, administered by a nurse or occupational therapist, assessed demographics, personal history, lifestyle, health services use, function, and cognitive status. The second part, performed by physicians, involved an examination and a medical history, including extensive review of systems. The researchers calculated the BMI for each participant. The main outcome—death—was determined by an annual review of the national death registry. The researchers assessed the association between BMI and death, adjusting for diabetes mellitus, ischemic heart disease, hypertension, and cancer; subjective estimate of economic hardship; physical activity; functional independence; smoking (pack years); and self-rated health. At ages 70, 78, and 85 years, each unit increase in BMI was associated with lower mortality risk.

Stessman J, Jacobs JM, Ein-Mor E, Bursztyn M. Normal body mass index rather than obesity predicts greater mortality in elderly people: the Jerusalem Longitudinal Study. *J Am Geriatr Soc*. 2009;57(12):2232-2238.

Maternal blood testing can accurately identify fetal sex

Clinical question Is maternal blood testing late in the first trimester accurate to determine fetal sex?

Bottom line Test results of maternal plasma for fetal DNA late in the first trimester to determine fetal sex are accurate. The main current indication of this testing is to avoid invasive testing of the female fetus for X-linked congenital disorders. (Level of evidence = 1b)

Synopsis The presence of cell-free fetal DNA originating from the placenta in the plasma of pregnant women was discovered in the 1990s. Early knowledge of fetal sex can be helpful; for example, to avoid invasive testing of female fetuses for X-linked conditions. A polymerase chain reaction (PCR) test of maternal plasma can determine the presence or absence of sequences specific to the Y chromosome or paternal alleles present in the father, but absent in the mother. These Dutch authors report the results of 201 cases tested from 2003 to 2009. Fetal sex was ascertained by karyotyping, ultrasonography, or after birth in 98% of cases. Ultrasonography prior to PCR testing was performed to confirm viable singleton gestation. The researchers used a minimal gestational age of 7 weeks for indication of risk for congenital adrenal hyperplasia and 9 weeks for all others to reduce the likelihood of false-negative results due to low levels of fetal DNA. Testing for presence of paternal sequences absent in the mother was also performed to confirm the presence of fetal DNA. There were no cases of misclassification of boys and girls. In all cases of inconclusive results (n = 10), the sex of the newborn was female.

Scheffer PG, van der Schoot CE, Page-Christiaens GC, et al. Reliability of fetal sex determination using maternal plasma. *Obstet Gynecol.* 2010;115(1):117-126.