

Dear friends of clinical journal club - load the file down at <https://www.mdc-berlin.de/cjc>. This website also gives you access to my seminar on Wednesdays 16:00 English and 17:00 German. You need to click on *Besprechung beizutreten*. If it fails to work immediately, keep on clicking.

A 21-year-old woman who had presented to the pulmonary clinic with a 7-day history of sore throat and cough was noted to have a vertebral abnormality on chest radiograph. She reported no history of back pain. Computed tomography of the chest is shown. What is the most likely underlying etiology? You are offered: congenital anomaly, decreased bone mineralization, increased bone turnover, malignancy, and prior trauma. Recall that the changes are asymptomatic. International recommendations advise against the use of intravenous rehydration therapy in children with severe acute malnutrition because of the concern about fluid overload, but evidence to support this concern is lacking. Given the high mortality associated with the current recommendations, the adoption of intravenous rehydration strategies might improve outcomes. Investigators conducted a factorial, open-label superiority trial in four countries in Africa. Children 6 months to 12 years of age with severe acute malnutrition with gastroenteritis and dehydration underwent randomization in a 2:1:1 ratio to one of three rehydration strategies: oral rehydration, plus intravenous boluses for shock; a rapid intravenous strategy that consisted of lactated Ringer's solution (100 ml per kilogram of body weight) administered over a period of 3 to 6 hours, with boluses for shock; or a slow intravenous strategy that consisted of the same solution administered over a period of 8 hours, with no boluses. The primary end point was death at 96 hours. The route of administration made no difference. Assessing the risk of radiation-induced hematologic cancer from medical imaging in children and adolescents might support informed decisions on the use of imaging. Investigators followed a retrospective cohort of 3,724,623 children born between 1996 and 2016 in six U.S. health care systems and Ontario, Canada, until the earliest of cancer or benign-tumor diagnosis, death, end of health care coverage, an age of 21 years, or December 31, 2017. Radiation doses to active bone marrow from medical imaging were quantified. Associations between hematologic cancers and cumulative radiation exposure (vs. no exposure), with a lag of 6 months, were estimated with the use of continuous-time hazards models. The investigators learned that an association

between exposure to radiation from medical imaging and a small but significantly increased risk of hematologic cancer exist among children and adolescents. Highly effective therapies to reduce triglyceride levels are lacking. Olezarsen is an N-acetylgalactosamine–conjugated antisense oligonucleotide that targets the messenger RNA of apolipoprotein C-III, which inhibits triglyceride clearance. In a phase 3, international, double-blind, randomized, placebo-controlled trial, investigators enrolled patients with moderate hypertriglyceridemia (triglyceride level, 150 to 499 mg per deciliter) and elevated cardiovascular risk or with severe hypertriglyceridemia (triglyceride level, ≥ 500 mg per deciliter) and randomly assigned them in a 1:3 ratio to a 50-mg or 80-mg cohort. The patients were then randomly assigned in a 3:1 ratio to receive monthly subcutaneous olezarsen or matching placebo within each cohort. The primary endpoint reduction in triglyceride levels was easily met in this study. Clesrovimab is a long-acting investigational monoclonal antibody against site IV of the respiratory syncytial virus (RSV) fusion protein. Data regarding the safety and efficacy of clesrovimab in healthy infants are needed. Investigators randomly assigned healthy preterm and full-term infants entering their first RSV season in a 2:1 ratio to receive one intramuscular 105-mg dose of clesrovimab or placebo. The passive-immunity strategy was successful and pneumonia episodes and hospitalizations were reduced. Poorly controlled hypertension is a common problem worldwide, particularly in low-resource settings. Investigators conducted an open-labeled, randomized, controlled trial of a home-based model of hypertension care in South Africa. Adults with hypertension were assigned to receive home-based care, which consisted of patient monitoring of blood pressure, home visits from a community health worker (CHW) for data collection and medication delivery, and remote nurse-led decision making supported by a mobile application (CHW group); enhanced home-based care, which consisted of the same intervention but with blood-pressure machines transmitting readings automatically (enhanced CHW group); or standard care with clinic-based management (standard-care group). The primary outcome was the systolic blood pressure at 6 months. Indeed, blood pressure-reduction strategies were met. The N Engl J Med review is about monoclonal gammopathies of unknown significance. The N Engl J Med weekly patient has rheumatoid arthritis, radio-iodine-treated Graves' disease, and develops muscle spasms and paresthesia in hands and feet. In the

Lancet, we learn that budesonide-formoterol beats salbutamol in children with asthma. Then, a randomized trial treats obese children with type-2 diabetes with tirzepatide or placebo. Tirzepatide reduced both HbA1C and BMI in these children. Next, a multicenter cohort study identifies risk markers for sudden unexpected death in epilepsy patients. Peri-ictal central apneic episodes are a warning signal of mortality risk. The Lancet reviews are on shigellosis and type-1 diabetes. The latter review is important in terms of last weeks Lancet paper on anti-thymocyte globulin to delay the onset of insulin-dependent type-1 diabetes. This week, we review a Cell-Metabolism paper on a randomized calorically equal trial of ultra-processed foods versus non-processed foods. The design is cross-over; the subjects could eat as much as they wanted. On the processed-food arm, the subjects ate 500 calories more per day and gained 1 kg over 14 days on diet. On the unprocessed-food arm, the same subjects lost 1 kg in 14 days. We next learn that the principal investigator of this study has since left NIH because of censorship concerns from the current administration. Join me on Wednesday, October 8 for the above and more in another stunning, orally presented, clinical journal club, 16:00 in English and 17:00 in German.

Sincerely, Fred Luft

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