and provoked considerable discussion. An entire session was devoted to epidural anesthesia in relation to the cardiovascular and respiratory systems. M. Cousins (Stanford) reported that epidural block produces a marked increase in graft blood flow in arteriosclerotic patients undergoing vascular operations in the lower limb. Sensory block as well as sympathetic block was necessary to produce maximum increases in graft blood flow postoperatively when pain was present. A subsequent paper from the Uppsala group, Sjogren, Wright and Holmdahl, confirmed the ability of pain to markedly reduce blood flow in the lower limb, and P. Nikki (Helsinki) documented large increases in circulating catecholamines, particularly norepinephrine, in response to postoperative pain. The interactions of postoperative pain and the peripheral circulation previously have been poorly understood. This information provides the basis for much fruitful investigation. Sjogren, Wright and Holmdahl also presented evidence of a marked difference in respiratory function after thoracic epidural block performed 24 hours postoperatively compared with three hours postoperatively. In contrast to the findings of improved respiratory mechanics and arterial oxygenation in the early postoperative period, 24 hours postoperatively Pa_{O_2} showed a significant fall after epidural block. Possible factors may be the appearance of a pulmonary shunt and variation in $\dot{V}_{O_2}$ with administered dose of lidocaine. In contrast, B. Finer (Uppsala) showed an increase in P_{O_2} after intercostal block, both 1–3 hours and 24 hours postoperatively. The appearance of the long-acting local anesthetic, bupivacaine, has re-stimulated interest in the use of intercostal blocks for postoperative analgesia.

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Metabolism

INSULIN SYNTHESIS Proinsulin, insulin, and carbon dioxide production by isolated pancreatic islets of Langerhans were measured simultaneously. Carbon dioxide production from labelled glucose, mannose, fructose, ribose, and xylitol correlated well with the amounts of proinsulin and insulin synthesized by the islets. In the presence of glucose, the greatest carbon dioxide production was obtained and the largest quantities of proinsulin and insulin were synthesized. Mannose was metabolized to carbon dioxide at two-thirds the rate of glucose and also was two-thirds as effective as glucose in stimulating insulin synthesis. Very little fructose, ribose, or xylitol was metabolized to carbon dioxide, and very little insulin was produced in their presence. Pyruvate was readily metabolized to carbon dioxide, but little insulin was synthesized in its presence. The biosynthesis of proinsulin and insulin depends not only on available energy but also on an appropriate breakdown of glucose and mannose. (*Lin, B. J., and Haist, R. E.: Respiration and Insulin Synthesis in the Islets of Langerhans, Canad. J. Physiol. Pharmacol. 49:559, 1971.*)