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Circulation

COLLOID ONCOTIC PRESSURE Measurements of colloid oncotic pressure (COP) (using an osmometer with a transducer membrane system), total plasma protein, and serum albumin in 35 specimens of bank blood yield values of 26.1 cm H₂O, 7.7 g/100 ml, and 4.1 g/100 ml, respectively. The mean values for 60 healthy adult volunteers were 33.8 cm H₂O for COP, 7.5 g/100 ml for total plasma protein, and 4.3 g/100 ml for serum albumin. One hundred patients undergoing operations on the abdomen, thorax and extremities involving extensive tissue dissection were divided into two equal groups. Group I received albumin in the form of purified protein fraction, 5 per cent albumin, or salt-poor albumin, in addition to whole blood and crystalloid used for fluid replacement. Group II received only whole blood and crystalloid. Preoperative values of COP were not different in the two groups. Patients in Group I received an average of 53 g of albumin during the procedure. Postoperatively they showed a small increase

in COP and a significant increase in serum albumin. In Group II, postoperative measurements revealed significant decreases in COP from 25.2 to 21.5 cm H₂O, in total protein from 6.1 to 5.4 g/100 ml, and in serum albumin from 3.4 to 3.2 g/100 ml. Significant decreases in COP, total protein, and serum albumin also occurred in eight patients who received packed erythrocytes reconstituted in physiologic saline solution for fluid replacement. (*Howland WS, and others: Colloid oncotic pressure and levels of albumin and total protein during major surgical procedures. Surg Gynecol Obstet* 143: 592-596, 1976.) **ABSTRACTER'S COMMENT:** The authors' data show significant decreases in colloid oncotic pressure and serum albumin in patients who did not receive supplemental albumin intraoperatively. Whether an average colloid oncotic pressure of 21.5 cm H₂O or an average serum albumin of 3.2 g/100 ml is of clinical significance must be considered controversial at present [AB].