



FIG. 2. The cross-sectional diagram shows the EEG cup electrode attached to skin (a = EEG cup electrode, b = backing, c = two sided adhesive, e = skin, f = EEG electrode cream).

per electrode to dry) and are held more securely than with either collodion or electrode paste. While a circular adhesive will not secure cup electrodes to skin covered with thick hair, we routinely observe satisfactory intraoperative EEG recordings by using circular adhesive to apply forehead-mastoid electrode pairs simulating frontoparietal scalp placement.

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### Yet Another Hazard of Percutaneous Central Venous Cannulation

*To the Editor:*—Further to the correspondence from Dr. Schwartz and colleagues,<sup>1</sup> we would like to report a case of inadvertent cannulation of a systemic-pulmonary Blalock shunt following attempted percutaneous catheterization of the ipsilateral internal jugular vein.

The young patient, aged 3 months, weighing 5 kg, and measuring 72 cm, with Fallot's tetralogy, underwent right thoracotomy when a 6-cm "Gore-tex" shunt was established between right subclavian artery and right pulmonary artery. Her postoperative course was characterized by unilateral pulmonary edema, hypoxemia, and signs of right ventricular failure, necessitating inotropic support, vigorous diuretic therapy, and ventilatory assistance, together with parenteral nutrition. When her last remaining central line ceased to function on the ninth postoperative day, attempts were made to reinsert a new central venous cannula.

Despite assistance and correct positioning, numerous attempts to cannulate right and left internal jugular veins or the right subclavian vein proved unsuccessful. Eventually, after prolonged manipulation, a vessel was catheterized with a cannula over needle apparatus (18G, Abbotath) via a point of insertion marked as the apex of the topographic triangle formed by the two heads of the right sternomastoid and the right clavicle. The first reading of central venous pressure revealed a marked discrepancy compared with earlier recordings, and the transduced waveform was consistent with a cannula placed in the pulmonary artery, viz systolic pressure 35 mmHg, diastolic pressure 12 mmHg. The suspected position of the cannula was substantiated by injection of contrast

medium under fluoroscopic screening. The line was removed under angiographic control without difficulty. The patient continued to thrive.

This case reaffirms concern regarding patients who have tetralogy of Fallot with functioning Blalock-Taussig shunts and the establishment of ipsilateral supraclavicular internal jugular venous cannulae. Diligence in the interpretation of readings from centrally placed cannulae is reemphasized.

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#### REFERENCE

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