Pinealectomy was described by Hoffman and Reiter in 1965 [1]. In many techniques described for pinealectomy, all recognize the problem of brisk and often fatal hemorrhage from surrounding dural sinuses. It is known that the pineal's sympathetic innervation from the superior cervical ganglia is vital for its function. Ideal technique for pineal removal should: hold bleeding to a minimum; require only short duration of surgery; present a clear view of the pineal gland at the operation site, facilitating its extirpation and decreasing the probability of accidental damage to adjacent neural structures; and provide the researcher an opportunity to perform perfect parallel sham operations, making sure that its innervation is not disrupted [2]. In this report, pinealectomy was illustrated on rat specimens.

Case Report

The technique of pinealectomy

The rats were anesthetized via intraperitoneal injection of thiopental sodium. The dosage used was 50 mg/kg body weight. After shaving the dorsum of the head, animals were held in position by using the index and thumb of the left hand over the jaws; care was given to allow the animals to breathe freely. A midline incision was made in the scalp between the ears and the eyes, and the edges were retracted laterally after clearing the underlying connective tissue. The sagittal and lambdoid sutures were then exposed by scraping away the periosteum to the temporal bone attachments of the temporalis muscles. Transverse sinus (TS) and superior sagittal sinus (SSS) can be seen through the bone (Figure 1).

A square-shaped bone flap encompassing parts of both parietal and occipital bones was designed, and the bone was actually cut on 3 sides using an electric saw. The posterior boundary of the square was left intact; thus by applying mild pressure the bone flap could be raised in front and held posteriorly. Great care must be focused on removing the bone piece to avoid hemorrhage from the underlying sinuses. On the anterior boundary of the square, the saw usually traumatizes the straight sinus with some bleeding. This could easily be controlled by gentle pressure. The flap was then raised very carefully without injuring the dura, and the confluence of sinuses (CS) was exposed over the triangular space at the junction of the parietal and occipital lobes (Figure 2).

The dura was cut with a sharp needle in an arc-shaped line in the area of the confluence of the superior sagittal and transverse sinuses. The dura was raised with forceps. The SSS was double ligated with 6/0 gauge surgical suture introduced under the SSS with a curved atraumatic needle, and resected (Figure 3). The resected portion should be minimal and markedly rostral to the CS facilitating reestablishment of adequate venous drainage following surgery. By reflecting the caudal portion of the ligated SSS posteriorly, the gland was seen beneath the CS (Figure 3). The gland was approached from an anterior aspect and removed with a pair of fine curved
References


