A-15. Acute Subdural Hematoma in Infancy Following Minor Head Trauma.

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Syndrome of acute subdural hematoma following minor head trauma is common in infancy. During the last six years, twelve patients were treated. Ages were distributed from one to nineteen months of life. Seven patients had lesions of subdural hematoma on one side with subdural hydroma on the other side. Two patients had hematoma on one side only, and remaining three patients had hydroma. Retinal bleedings were found in eight cases of hematoma, but none in hydroma. All cases were operated on by button-like trephination craniotomies at parietal region. Subcutaneous collections of the fluid with concentrated protein were a common occurrence during the period of one or four weeks after operation.

Histological examination of the dura mater disclosed that a neo-membrane was produced inside the dura in the cases of the hematoma as well as the hydroma. The membrane was composed of granulation tissues with fibroblasts, histiocytes and capillaries or sinusoid blood vessels. Collagenous fibers were also produced. The inside border of the hematoma or hydroma was of proliferated arachnoid tissues, or a fibrous membrane which lacks blood vessels.

These findings suggest that some previously existed pathologic changes of the meninges are triggered by minor head trauma to produce hematoma or hydroma which shows a syndrome of acute subdural hematoma.

A-16. Histogenesis of Chronic Subdural Hematoma

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In order to investigate a pathogenesis of the chronic subdural hematoma, a microscopic study has been performed on 111 normal dura maters of autopsy subjects, and such pathological conditions as proliferation or ectasia of capillaries have been revealed in the intima.

A series of pathological changes have been divided into following four stages.

The 1st stage: the elastic membrane is thickened due to elastosis, which is always observed with or without increase of fibrocytes or capillaries in the intima.

The 2nd stage: Here are capillaries increased with elastosis in the intima.

The 3rd stage: Structural changes of capillaries are seen. There appear sometimes sinusoid-like capillaries with thin wall and more than 100 μ in diameter. Diapedesis bleeding is observed in case of several blood congestion. A certain increase of cell components is also revealed.

The 4th stage: there are relatively old hemorrhage with hemosiderin pigment and scar formation with collagenous fibers.

Above mentioned intimal changes rapidly increase their incidence in the fifties and sixties in male, on the other hand, don't increase the incidence after twenties in female.

Capillarization with capillary extasis has been found in 8 out of 24 cases in male (33.3%), and 2 out of 14 cases in female (14.3%). Capillaries have been also frequently seen in the front-parieto-temporal region, but rarely in the suboccipital portion, over skull base, tentorium cerebelli, and falx cerebri. The incidence of the intimal changes against age, sex and site seems to be closely correlated with those of the chronic subdural hematoma.

The graphical reconstruction of the dura mater has been made to demonstrate various pathological changes of capillaries in their three dimentional cavities which seem like tissue slits covered by endotherial cells.

Capillaries in the intima are divided into branches with abundant anastomosis and occasionally they form blind ends. They constitute together a net work, which laid just beneath the internal dural surface usually occupies an area of about 1 mm or so in diameter.

Such foci of abnormal capillary proliferation are scattered like dots in the intima. The net work is connected with proper vascular system by capillary bridges.

A-17. Estrogen Value as a Cause of Chronic Subdural Hematoma

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As to the origin and nature of the chronic subdural hematoma, there is as yet no established conclusion, and all the theories still remain as mere speculations. But the common origin of the chronic subdural hematoma is hemorrhage in or around the dura mater. From this viewpoint, we had investigated the vascular change in the innermost layer of the dura mater, and found out a histological change (capillaries with