A Case of the Week

Case 423

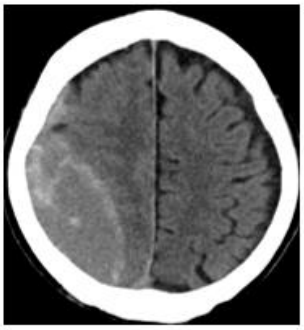
硬膜外血腫

70代　男性

硬膜外血腫＞硬膜内血種

硬膜外血腫はどこから生じどの血管が破綻するのか

A



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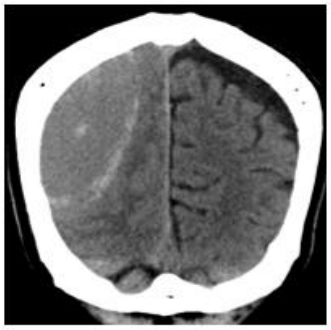

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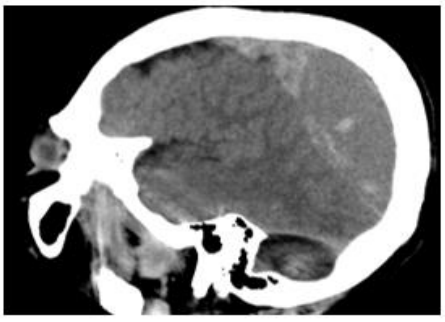
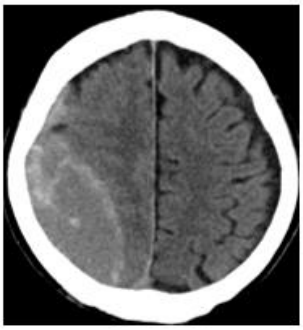
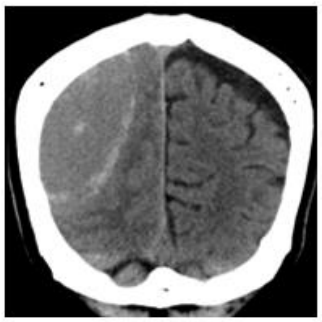
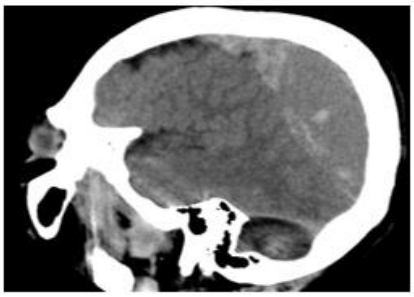


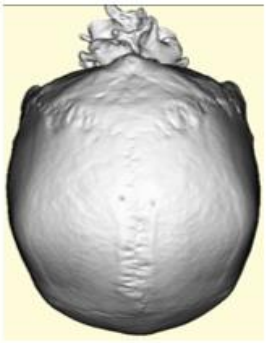
両側凸の形状の血腫が右頭頂部に認められる。

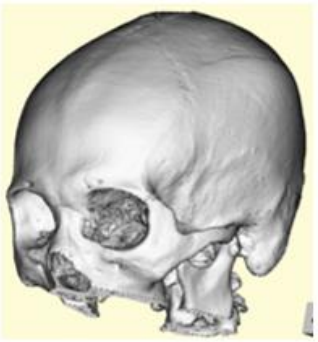
周辺高吸収で中央はやや低吸収だがCT値は比較的高い。

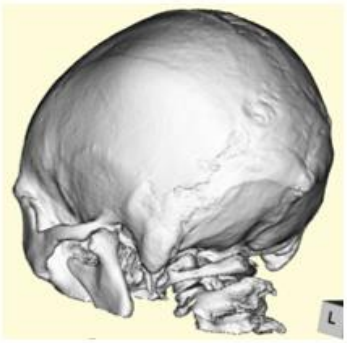
A 

B 

C 

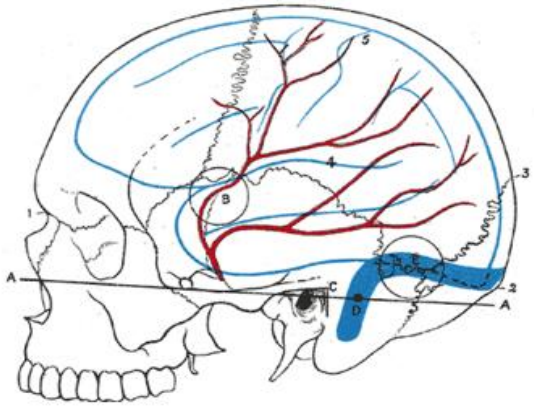
D 

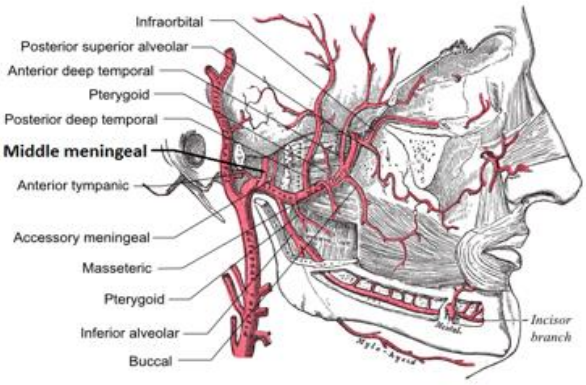
E 

F 

脳血腫の両端は頭蓋骨の縫合部にほぼ一致している。

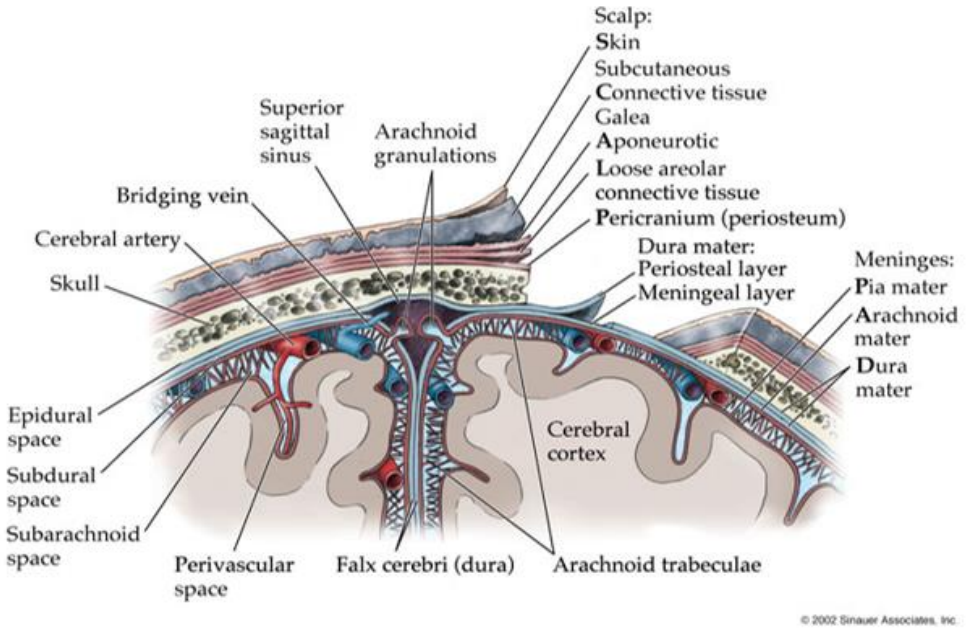
	Extradural haemorrhage	Subdural haemorrhage	Subarachnoid haemorrhage	Intracerebral haemorrhage
Location	Between the skull bone and the dura mater	Between the dura and arachnoid mater	Between the arachnoid and pia mater	Within the brain parenchyma
Pathophysiology	Rupture of middle meningeal artery on the temporal surface of the skull	Rupture of bridging cranial veins	Rupture of a berry aneurysm	Haemorrhagic stroke
Clinical presentation	History of trauma Skull fracture Lucid interval, followed by unconsciousness	History of trauma Older Alcohol misuse Child, non-accidental injury Gradual deterioration	History of trauma Rupture of berry aneurysm "Thunderclap" headache Sudden onset of symptoms	Sudden onset of neurological deficits
CT scan appearance	Convex Shaped	Concave/Crescent Shaped	Hyper-attenuation around the circle of Willis	Hyper-attenuation in the brain parenchyma

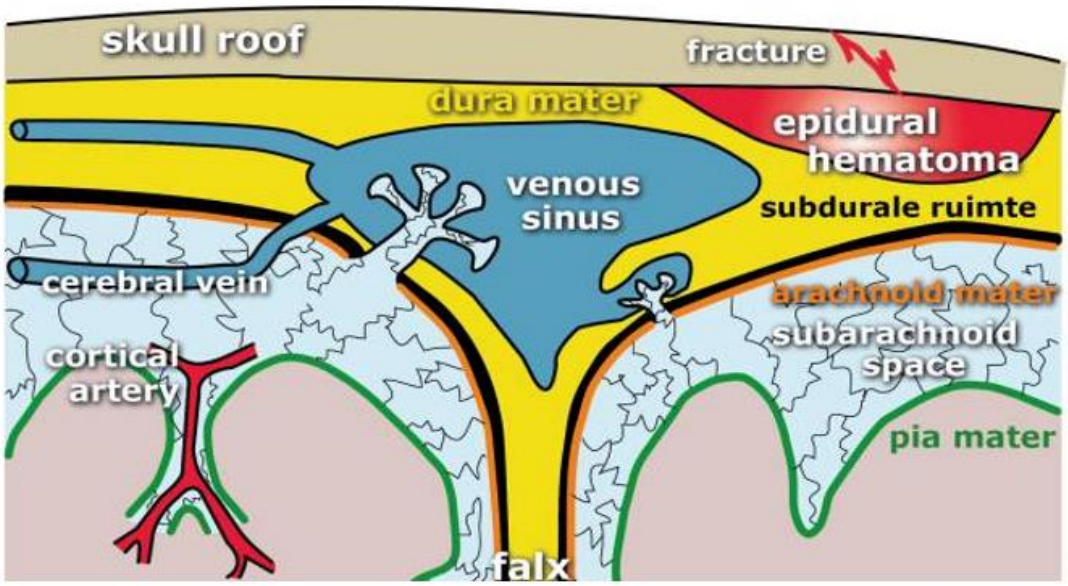


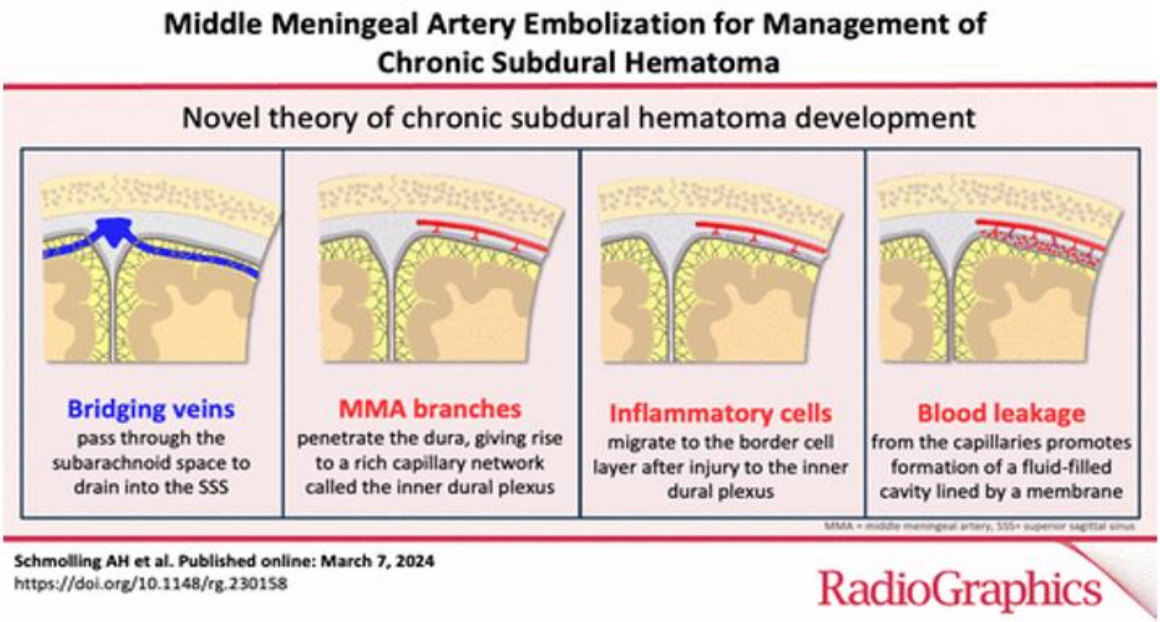


中硬膜動静脈は棘孔から頭蓋内に入り込む。

Middle　Meningeal Artery







硬膜の構造

- 内骨膜層(endosteal layer, periosteum)
  骨縫合の境の縫合靭帯に固着

- 髄膜層(固有硬膜: meningeal layer, dura propria)

内骨膜層と髄膜層との間に　中硬膜動静脈や静脈洞が存在

- Dural border cell layer(DBC) 硬膜境界細胞層：硬膜の最下層くも膜と連続
  1975年ごろからの説

硬膜下腔

- 硬膜とクモ膜は組織学的には連続：組織学的には硬膜下腔は存在せず

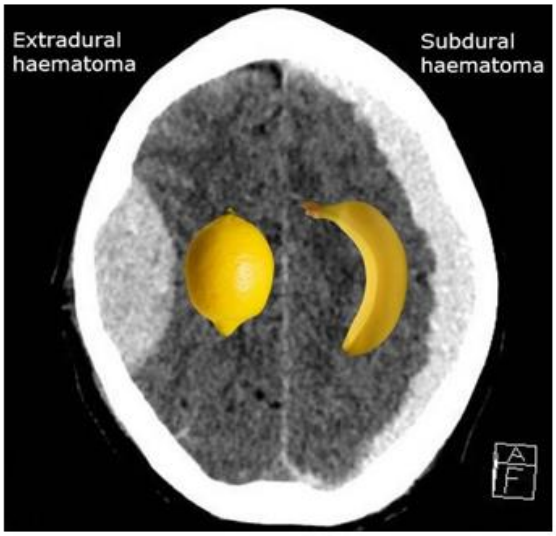
- 硬膜の最下層の血管に富むDural border cell layer(DBC、硬膜境界細胞層)が破綻しはがれて生じた腔

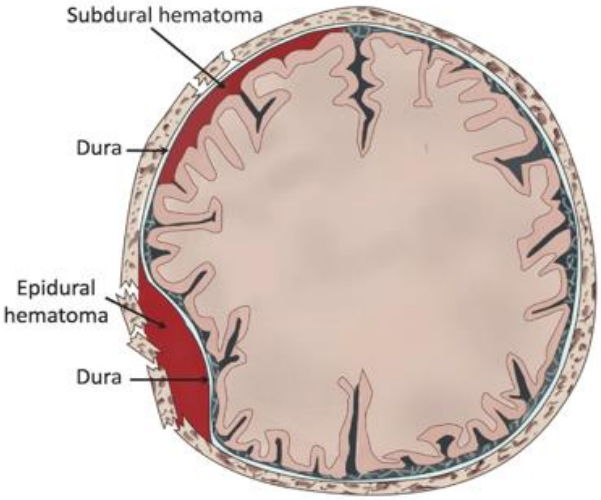
硬膜下血腫

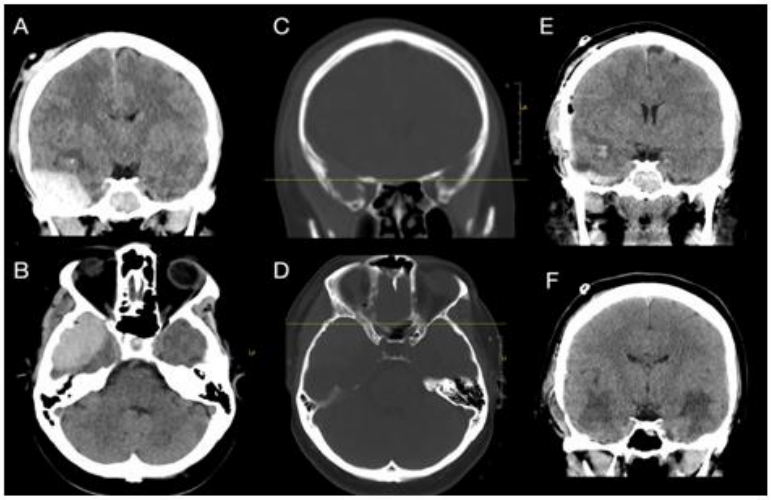
- Dural border cell layer(DBC、硬膜境界細胞層)の破損によって生じた腔はくも膜上に沿って血腫が生じるため三日月状に進展

硬膜外血腫

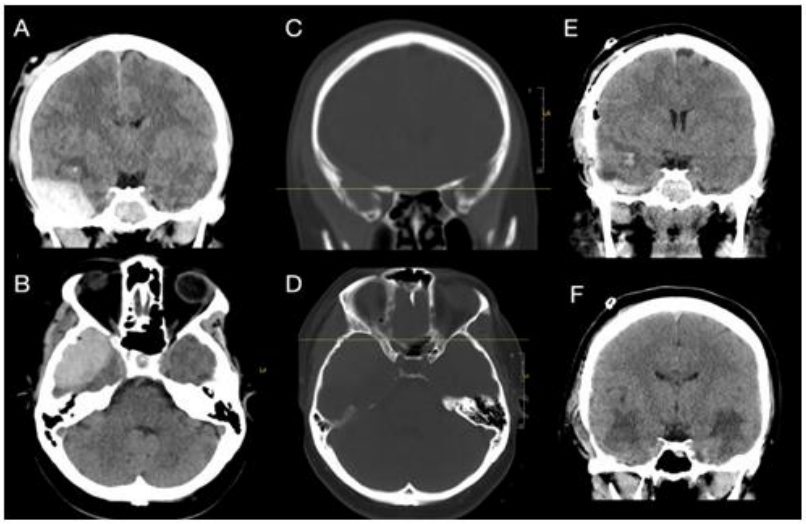
中硬膜外静脈、静脈洞の破損によって生じ、硬膜は骨縫合の靭帯と固着しているので血腫の進展がブロックされ両凸の形状



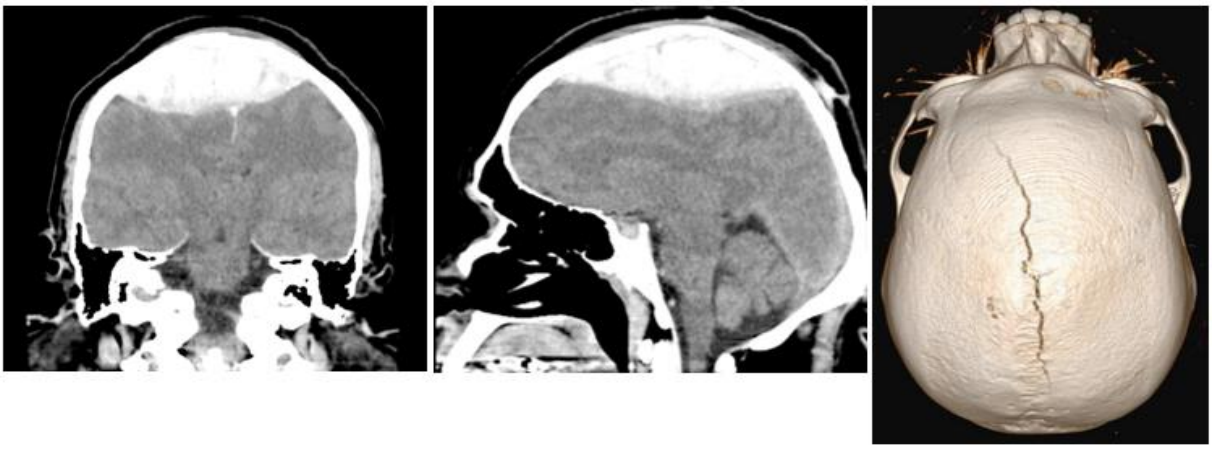




Epidural Hematoma of Sinus Origin. Computed tomography scan demonstrates a left parietooccipital epidural hematoma arising from injury to a dural venous sinus. This location is less common and often associated with slower progression due to venous rather than arterial bleeding. Contributed by Sunil Munakomi,MD



Right Temporal Epidural Hematoma with Skull Fracture and Bilateral Contusions. A coronal computed tomography scan (A) shows a right acute epidural hematoma with midline shift to the left and early right-sided uncal herniation. An axial view (B) further demonstrates the mass effect. Bone window images (C and D) reveal an acute traumatic fracture through the anterior aspect of the squamous portion of the right temporal bone. Immediate postoperative computed tomography (E) shows right temporal lobe contusions, with similar contralateral contusions not captured on this slice. Two-week postoperative imaging (F) demonstrates evolving hemorrhagic contusions in the right and left inferior temporal lobes, consistent with coup-contrecoup injury. Contributed by Konstantinos Margetis MD, PhD



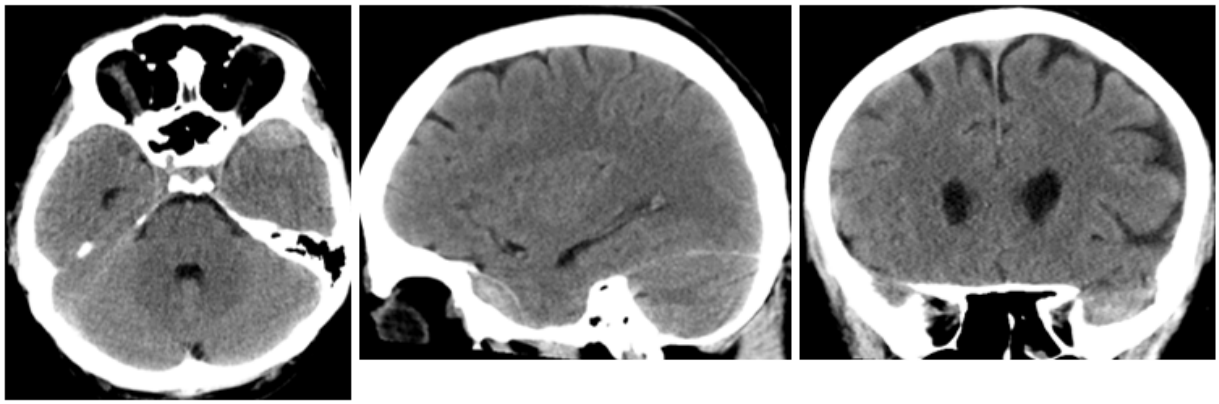
天井の硬膜外血腫、上矢状縫合の離開、骨折により上矢状静脈自体あるいはその分枝の損傷。上矢状静脈は、矢状縫合に沿って走行するため、骨縫合を超えて拡がる。

vertex EDH　Extradural hemorrhages located at the vertex are usually due to diastasis +/- fracture involving the superior sagittal sinus. Venous blood from the sinus or closely associated vein accumulates between the endosteal layer of the dura and the overlying inner table of the skull. Because the sinus runs in line with the disrupted sagittal suture, this is one of the occasions when an extradural hematoma crosses the suture and in so doing displaces the superior sagittal sinus inferiorly.

後頭蓋窩　横静脈洞の損傷、縫合を超える可能性

Occipital posterior fossa

Although most extradural hematomas in the posterior fossa are due to temporal bone fractures involving the middle meningeal artery, in the setting of occipital trauma, particularly fractures of the occipital bone, venous hemorrhage is more common [2]. As is the case with vertex extradural hemorrhages, bleeding is from the adjacent sinus, in this case, the transverse sinus, which can be elevated away from the underlying bone.



全中頭蓋の硬膜外血腫、蝶形ー頭頂静脈洞の損傷。大きくなるのは稀、経過観察で対応。

Anterior middle cranial fossa

Anterior middle cranial fossa extradural hemorrhages are thought to arise from the sphenoparietal sinus which runs along the superior margin of the greater wing of sphenoid [1]. Due to their location, the anatomy of dural attachments and venous origin, they do not cause midline shift or herniation, rarely grow, and can generally be managed conservatively [1]

English　page

2026.2.13