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Experimental study of cardiac functions *in vivo* in early stage of radiation, burn and combined radiation-burn injuries

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Abstract The changes of cardiac functions were observed in the first 8 h after radiation, burn and combined radiation-burn injuries. The mechanism of the changes of cardiac function was investigated through the assessment of the therapeutic effects of fluid replacement and verapamil. The findings were as follows: 1. Cardiac systole and diastole were suppressed after combined radiation-burn injury and suppression was more severe in the combined injury than in simple burns. It is likely that the combined effects of radiation and burns result in more severe suppression. 2. Insufficiancy of blood volume was observed after combined injury and it was also more severe in combined injury than in simple burns. 3. Verapamil, a calcium channel blocker, alleviated the damages on cardiac functions in a certain degree.

Key words radiation injuries; burn; combined radiation-burn injuries; cardial function

个案与短篇

第四脑室内脑膜瘤——附3例报告

Meningiomas of the fourth ventricle: Report of 3 cases

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后颅窝脑膜瘤少见,在一组1854例脑膜瘤中占9%,而位于第四脑室内的脑膜瘤更少见[1,2].我科从1975年至1995年收治第四脑室内脑膜瘤3例,占同期脑膜的2.4%.现报告如下.

1 病例摘要

例1 女性,39岁,农民.头枕部疼痛8年,加重伴恶心、耳鸣、走路不稳1年.曾诊断为"颈椎病".近半年上述症状加重,视力下降.神经系统检查:双侧视乳头水肿,无眼震.咽反射差,伸舌略偏左.协调运动正常.头颅CT:第四脑室内肿瘤伴脑积水.手术发现,肿瘤位于第四脑室内,5 cm×5 cm×4 cm,包膜完整,与第四脑室无粘连,与窦汇区脑膜粘连,血供不丰,质地较软.完整切除肿瘤.病理诊断为纤维性脑膜瘤.

例2 女性,34岁,工人.持续性头痛伴呕吐,逐渐走路不稳一月余.既往有一过性头晕,呕吐史20年.神经系统检查:双侧视乳头水肿,无眼震.协调运动正常,龙伯征可疑.头颅CT:第四脑室内肿瘤.胸部CT:后纵隔肿瘤.手术发现:双侧小脑扁桃体下疝.肿瘤位于第四脑室内,呈紫红色,质硬,与第四脑室底及小脑粘连不多,其上极有一索状物与小脑幕下粘连.肿瘤供血不丰富,完整切除.病理诊断:纤维母细胞型脑膜瘤.二期胸部手术切除后纵隔肿瘤,病理诊断为神经纤维瘤.

例3 女性,47岁,工人.突发头昏,视物旋转起病,运动时症状加重.曾诊断为"美尼尔综合症".神经系统检查无异常.头颅CT:第四脑室内肿瘤,有钙化小结.手术发现:肿瘤位于第四脑室内,直径2.5 cm,质硬,边界清楚,与左小脑内侧及蚓部有粘连.完整切除肿瘤.病理诊断为纤维细胞型脑膜瘤.

术后过程及随访结果:例1术后表情淡漠,少语,小脑损害症状加重.头颅CT复查示双侧额顶部及右侧后颅窝硬膜下积液.经引流好转,步行出院.其他2例术后过程顺利.3例病人随访1～2年未见肿瘤复发.

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Changes of phospholipids and membrane fluidity of brain mitochondria in cerebral ischemia and reperfusion

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Abstract　In order to elucidate the role of phosphoinositide transduction system played in the mitochondrial damages during cerbral ischemia－reperfusion injury，the changes of phospholipids and membrane fluidity of the mitochondria were observed. It was found that the phospholipid level and mitochondrial membrane fluidity were decreased significantly in the 1st h after reperfusion and came up later to the level of SAM group. In addition，treatment with PMSF could increase phospholipid level，improve mitochondrial mebrane fluidity and attenuate the severity of delayed death of CA_1 pyramidal cells in the hippocampus. These findings suggest that the damages to the mitochondria during cerebral ischemia－reperfusion injury are closely related to the level of mitochondrial phospholipids.

Key words　cerebral ischemia and reperfusion；mitochondrion；phospholipid；membrane fluidity；PMSF

（上接 12 页）

2　讨论

2.1　根据组织来源可将第四脑室内脑膜瘤分为如下两型

2.1.1　起源于第四脑室脉络丛，仅在第四脑室内生长。

2.1.2　起源于下髓帆脉络膜，肿瘤部分生长在第四脑室内，部分在小脑半球及蚓部，可与附近脑膜有粘连。所见报告的24例病人中，以第一种类型最多见[1]。本组3例病人肿瘤均位于第四脑室内，与脑膜有轻度粘连。病理诊断与原发性第四脑室脑膜瘤相同，为纤维细胞型脑膜瘤。

2.2　鉴别诊断

第四脑室内脑膜瘤应与第四脑室内其他肿瘤鉴别。其中最困难的是第四脑室内脉络丛乳头状瘤。有人提出下列CT表现有助于两者区别[2]：①第四脑室内脑膜瘤边界清楚，光滑；而脉络丛乳头状瘤常表现为不规则的肿瘤边界。②脑膜瘤钙化发生率高于脉络丛乳头状瘤。③CT平扫时脑膜瘤及大多数乳头状瘤的密度高于脑组织，但等密度乳头状瘤并非少见。

2.3　手术及预后

第四脑室内脑膜瘤边界清楚，包膜完整，与底部粘连不重，手术易于分离切除。在显微操作下手术，可将肿瘤全切。第四脑室内脑膜瘤预后良好，死残率低。本组1例术前脑积水，术后并发双侧额颞部硬膜下积液，引流后好转。其余两例无并发症。3例病人随访1～2年，无肿瘤复发。

关键词　脑膜肿瘤/外科手术
中图法分类号　R739.45

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