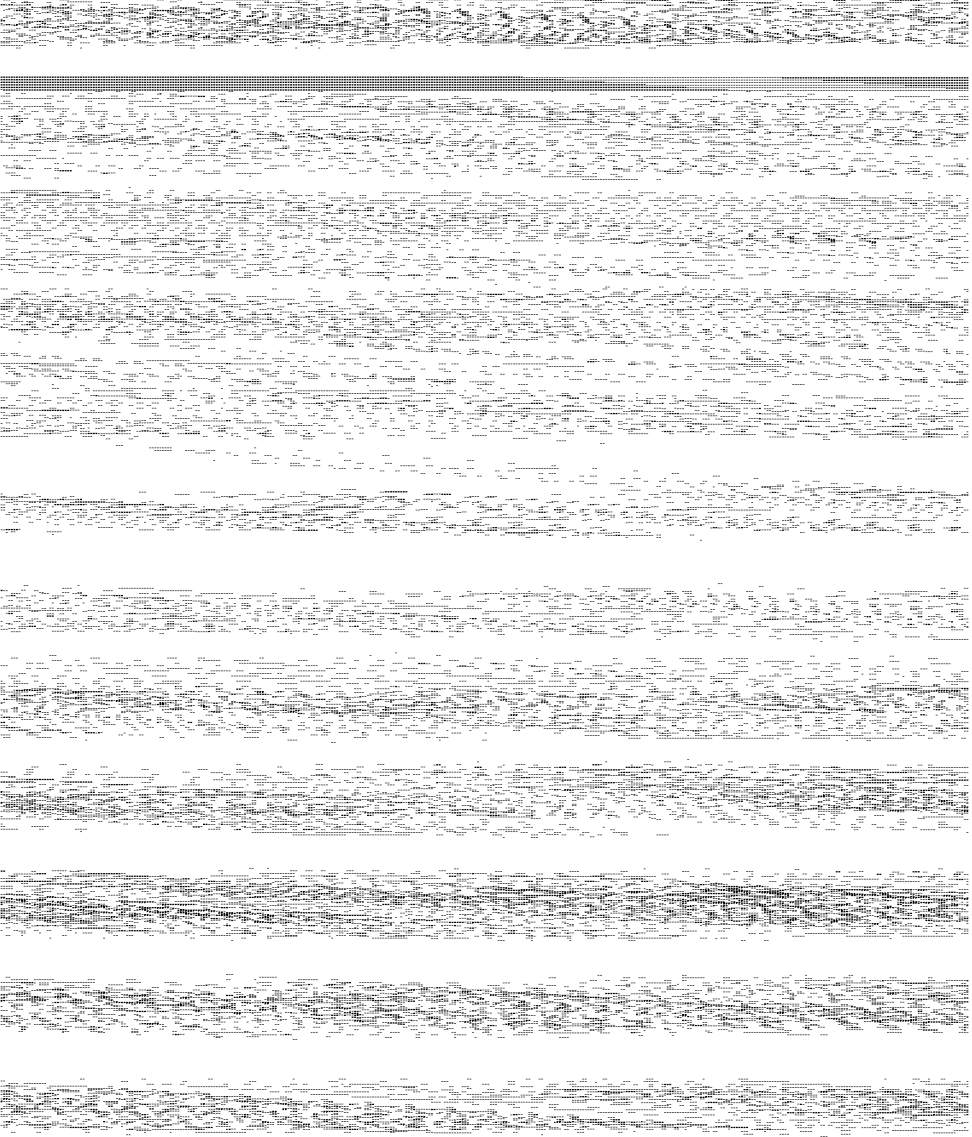
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生存期之间相差非常显著(均 $P<0.01$)。$M_G>3$ 组术后病程(t)无 1 例超过 1 年，T 最长者亦仅 14 个月。

不同预后的患者 M_G 均值间有显著差异(表 3)。$2<T\leqslant5$、$T>5$ 两组 M_G 均非常显著地小于 $T\leqslant1$ 组，$T>5$ 组非常显著小于 $T\leqslant5$ 各组。$t>5$ 组 M_G 均小于 $t\leqslant5$ 各组，$1<t\leqslant5$ 组小于 $t\leqslant1$ 组(均 $P<0.0004$)，即术后病程 $t\leqslant1$ 与 $t>1$ 之病例的 M_G 间有显著差异。

表 3　不同预后的患者 AgNORs 各参数值($\bar{x}\pm s$)

Tab 3　The parameters of AgNORs in patients with different prognoses ($\bar{x}\pm s$)

	Total courses (T)				Postoperative courses (t)		
	$T\leqslant1$	$1<T\leqslant2$	$2<T\leqslant5$	$T>5$	$t\leqslant1$	$1<t\leqslant5$	$t>5$
Cases	9	11	8	8	18	11	7
M_G	3.769±1.114	2.878±1.115	2.259±0.253	1.799±0.535	3.424±1.150	2.271±0.335	1.637±0.300
A_T	2.348±0.935	1.953±0.747	2.214±1.175	1.673±0.602	2.159±0.873	2.159±0.996	1.668±0.650
A_M	0.742±0.438	0.728±0.337	1.013±0.590	1.042±0.612	0.717±0.398	0.979±0.249	1.107±0.379

T, t: in years

2.3.2　AgNORs 颗粒面积与预后关系情况不同 T 和不同 t 组 A_T 均值之间均无显著差异(均 $P>0.05$)。按 $A_T\leqslant1.5\,\mu m^2$、$1.5<A_T<2.0\,\mu m^2$ 和 $A_T\geqslant2.0\,\mu m^2$ 分组，三组 T 及 t 之间均无显著差别($P>0.005$)。

不同 T 和不同 t 组 A_M 均值之间亦无显著差异($P>0.05$)。按 $A_M<0.6\,\mu m^2$($n=13$)、$0.6\leqslant A_M<1.0\,\mu m^2$($n=16$)、$A_M\geqslant1.0\,\mu m^2$($n=7$)分组，三组术后生存期之间差异显著($P<0.01$)(图 5)。不同 A_M 对病后生存率曲线无明显影响($P=0.1497$)。

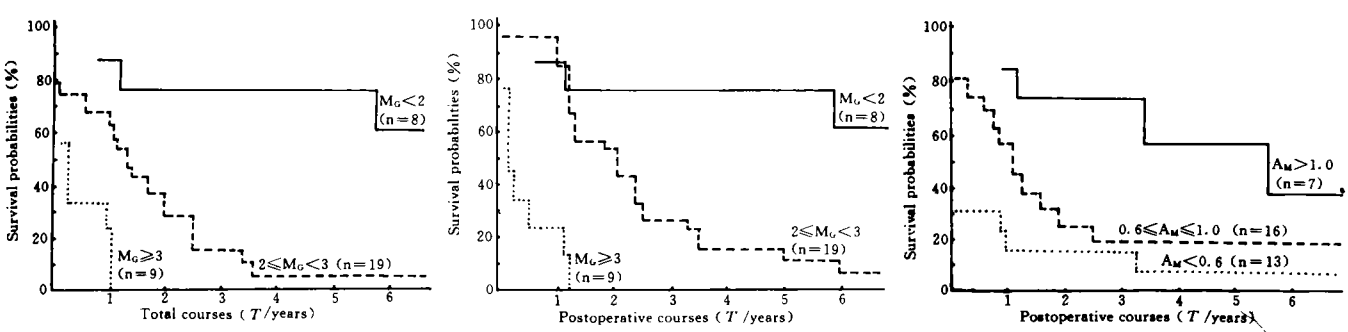


图 3　不同的 M_G 组患者整个病程生存率曲线

Fig 3　Survival curves of total courses of astrocytoma patients with different M_G

图 4　不同的 M_G 组患者术后病程生存率曲线

Fig 4　Survival curves of postoperative courses of astrocytoma patients with different M_G

图 5　不同的 A_M(μm^2)组患者术后病程生存率曲线

Fig 5　Survival curves of postoperative courses of astrocytoma patients with different A_M(μm^2)

3　讨论

NORs 是编码 rRNA 的 DNA 环，定位于有随体的染色体与核仁联系处，其功能意义已有较多研究。近年来发现，AgNORs 计数对于肿瘤病理诊断很有意义。国内外的研究大多提示 AgNORs 数目随肿瘤恶性程度增高而增多[5,8]。

本研究结果显示，AgNORs 的数目、形态、面积均与星形细胞肿瘤的级别有密切关系，尤其是 M_G 对判断分化程度和分析预后意义较大。分化高者颗粒较少、规则，分化低者颗粒较多而不规则或碎片状；A_M 无增大但 A_T 变大。M_G 对判断整个病程和术后病程长短均

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较颗粒面积有意义。$M_G<2$ 者一般为良性，预后较好；$M_G>2$ 者一般为恶性，预后较差。此外，所测诸参数相互之间都存在一定程度的线性相关关系。

新近一些研究探讨了 PCNA 在判断肿瘤生长活性和恶性程度中的意义。我们对本组材料亦进行了 PCNA 免疫组化染色，结果显示 PCNA 阳性反应与 AgNORs 数目有正相关性。有人认为，AgNORs 相关蛋白的半衰期比 PCNA 更长[9]。这可能会提示 AgNORs 检测更有利于对外检标本的病理研究。

肿瘤细胞中 AgNORs 增多的机制尚不清。结合文献和本研究结果，我们推测与以下因素有关：(1)细胞倍体数增加所致。可能由于 DNA 合成增多、染色体增加，从而随体亦增多，使 NORs 数目显著增多。DNA 含量、倍体数均与 AgNORs 数目呈正相关证实了这一点。(2)虽然 A_M 与数目呈负相关，肿瘤组 A_M 均较正常组变小，但数目多者 A_T 也增大，说明 AgNORs 数目增多不单纯是 NORs 分解或核仁融合缺陷所致，尚存在 NORs 处 DNA 转录活动的增加。(3)由于良性肿瘤 A_T 与正常组相近，但 A_M 变小，而恶性肿瘤 A_M 增加 A_T 亦随之增大，提示良性肿瘤倾向于以核仁分解为主，恶性肿瘤尚发生 rDNA 合成的显著增多。

综上所述，在适当的染色和检测条件下 AgNORs 颗粒的图像分析结果对于了解星形细胞瘤的生物学特性、患者预后有较好的辅助作用。值得注意的是，应用此项技术时应注意缩短染色时间、避光反应、过滤染液、切片厚薄适宜、器皿清洁、复染宜浅和充分的去离子水漂洗以及尽量用新切切片或进行脱色素处理切片，这是避免污染背景、减少测定误差的关键。

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Image analysis of AgNORs distribution and its prognostic significance in cerebral glioma

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Abstract The silver-binding nucleolar organizer regions (AgNORs) were studied quantitatively and qualtitatively with real color image analysis in the tumor cells and the vascular epithelium of 36 cases of astrocytic tumors of the brain and the cases were followed up. It was found that the average number of AgNOR granules (M_G) and the total area of the granules (A_T) were increased along with the increase of the grading of the tumor but the average area of granules (A_M) was smaller in astrocytoma than in normal astrocytes though the difference was not significant. M_G was larger in tumors showing tetraploids and over than in the tumors showing less than tetraploids. M_G was larger in the epithelium of tumor tissue than in that of normal

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tissue. Positive correlation was found between the values of M_G and DNA content and between those of A_T and nuclear area and negative correlation between A_M and M_G. The value of M_G affected the survival time of the patient. As a rule the tumor was benign when M_G was smaller than 2 and malignant when it was larger than 2. The M_G of patients with different prognosis was also different significantly. The prognosis was also related to A_M, that is, the smaller the A_M, the shorter the survival time.

All these findings suggest that image analysis of AgNORs is able to reveal the proliferation and differentiation of astrocytes which is of significance in the prognosis of the patient. In addition, the mechanism of AgNOR increase was discussed.

Key words astrocytoma; AgNOR; image analysis; prognosis

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表皮生长因子、加综合治疗糖尿病足跟溃疡及坏疽一例报告

个案与短篇

A case of diabetes with sore and gangrene of foot cured by epideric growth factor and other therapies

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患者男,61岁,患糖尿病10年,1993年3月开始下肢麻木发凉,继之左足跟皮肤出现皲裂有少许渗出物,继而红肿破溃,流脓性分泌物,曾经外院治疗无好转,溃烂增大形成两个溃疡口,流脓不止,并发热不退。于5月12日收住院。

1 体检

T38.0℃,左踝以下皮肤肿胀呈紫黑色,内踝下方及后跟部两个溃疡分别约为3 cm×1.5 cm、5 cm×2.5 cm。溃疡间有腔相通深及跟骨。中心及边缘有大量黑色坏死组织和分泌物,恶臭。下肢痛觉消失。白细胞12.0×10⁹/L,N 0.85。空腹血糖19.2 mmol/L,分泌物培养甲型链球菌,大肠杆菌生长。

2 治疗经过

入院后胰岛素32～42 u/d,皮下注射,3%双氧水30～50 ml,α-糜蛋白酶4 000 u注射用水4 ml稀释局部清洗创面,表皮生长因子(本校组胚教研室提供)5 μg滴于溃疡表面,丁胺卡那霉素100 mg加生理盐水20 ml稀释浸泡纱布外敷,或盐水纱布外敷每日一次。同时生理盐水200 ml加入丹参注射液16 ml;5%木糖醇液500 ml加入山莨菪碱(654－Ⅰ)60～80 mg静脉滴注每日一次。潘生丁50 mg,心痛啶10 mg口服每日3次。经综合治疗半个月病情控制,一个月后痛觉逐渐恢复,溃疡开始愈合,3个月痊愈出院。

3 讨论

肢端溃疡、坏疽是糖尿病周围血管和神经病变常见并发症之一。发展严重多采用截肢或导致败血症死亡。本例糖尿病性多发性溃疡面积大深肢端坏疽较少见。我们采用局部表皮生长因子湿敷以促进上皮组织生长伤口愈合[1],配合用山莨菪碱(654－Ⅰ),丹参及心痛啶改善微循环和潘生丁防治血液凝固性治疗获得了良好效果[2]。避免了截肢致残。

关键词 溃疡;糖尿病;表皮生长因子

中图法分类号 R587.2

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