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Induction of differentiation and activation of gene expression in a human pulmonary adenocarcinoma cell line with all-trans-retinoic acid

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Abstract All-trans-retinoic acid (RA) is a powerful differentiation-inducing agent. This effect of RA at the dosage 10^{-5} mol/L on the differentiation and gene expression of a human pulmonary adenocarcinoma cell line GLC-82 was observed and the findings were as follows; ① Cellular proliferation *in vitro* was suppressed, accumulative proliferation disappeared, vacuolization in the cytoplasm occurred in the cytoplasm and senile degradation and death of the cells were seen. ② Inhibition of clony formation on the double-layered soft agar. ③ Decrease of the cellular capacity to synthesize DNA. ④ Characteristic shift to the G_1/G_0 phase of the cell cycle. ⑤ Persistent expression of transglutaminase, which is the effector of cellular differentiation and apoptosis. These findings indicate that RA initiates the differentiaton of human pulmonary adenocarcinoma cells through the activation of differentiation-related gene expression.

Key words differentiation induction; human pulmonary adenocarcinoma cell line; retinoic acid

个案与短篇

食管重建手术治疗食管化学灼伤

Surgery of rebuilding oesophagus for the treatment of esophageal caustic burns

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我院1988年6月至1993年12月共收治食管化学灼伤36例。其中碱性灼伤30例,酸性灼伤6例。伤后因食管瘢痕性狭窄行食管重建术20例。其中带蒂结肠旁路移植术11例,术后发生吻合口瘘6例,同时存在吻合口狭窄5例,单纯吻合口狭窄1例。食管胃吻合术9例,分两种术式:狭窄位于食管中或下段,经左胸后外侧切口切除病变食管,行食管胃胸内吻合5例,食管胃左颈部吻合1例;经上腹正中切口游离全胃经胸骨后至左颈部行胃食管吻合3例。术后发生吻合口狭窄及颈部吻合口瘘各1例。

讨论

带蒂结肠旁路移植术为食管灼伤后瘢痕狭窄病例行食管重建较为常用的方法。其优点为手术创伤小,操作较为简单,但其术后并发症较为突出[1]。本组半数以上病例发生不同程度的吻合口狭窄及瘘,其原因是多方面的。除与术者技术水平有关外,吻合口张力过大,移植结肠血供不良,结肠胃吻合部排空受阻等均有影响。本组吻合口瘘与狭窄常同时存在或先后出现,互为因果。大多数作者认为瘢痕性食管与周围组织粘连紧密,切除时较为困难,具有造成大出血的可能[2],故多主张采用旁路术。本组6例病变部位在中段或下段食管者,切除病变食管后行胃食管吻合,术中切除病变食管并不十分困难,亦未增加术中出血量。此法可切除瘢痕化食管,从而减少瘢痕癌发生的可能性[3]。采用胃旁路术,胃食管左颈部吻合,具有结肠旁路术的优点,但避免了缺点。本组3例均无并发症发生。我们认为此术式具有较强的适应症,临床须进一步观察。本组9例食管胃吻合术,术后吻合口狭窄及颈部吻合口瘘各1例,明显低于结肠旁路术。

关键词 食管灼伤;狭窄;外科处理

中图法分类号 R655.4

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