

Analisis pola dan distribusi ekspresi protein OV6 dan AFP selama perkembangan hati tikus = Analysis of OV6 and AFP expression patterns and their distribution during rat liver development

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Abstrak

ABSTRAK

Sel oval merupakan sel punca tetap pada hepar dewasa, ditandai oleh OV6, yang terlibat dalam proses regenerasi. Sel oval ditemukan pada masa embrional dan memiliki kemiripan dengan hepatoblast, ditandai oleh AFP. Sel oval diduga merupakan sisa hepatoblast embrio. Hubungan antara keduanya belum diketahui pasti; pola dan distribusi ekspresi OV6 dan AFP pada masa perkembangan belum diketahui. Dilakukan penelitian observasional analitik pada hati tikus Wistar usia ED12.5, ED14.5, ED16.5, ED18.5, neonatus, tikus 8 minggu dan 7 bulan. Jaringan diproses secara histologis. Dilakukan pewarnaan HE dan imunohistokimia OV6 dan AFP. Ekspresi OV6 terlihat pada ED16.5 di sel lempeng duktal yang merupakan duktus biliaris primitif. Ekspresi OV6 mencapai puncak di neonatus dan menurun saat dewasa. Ekspresi OV6 pada neonatus dan dewasa terlihat di duktus biliaris, kanal Hering, dan area periporta. Ekspresi AFP sudah terlihat sejak ED12.5, mencapai puncak pada ED18.5, dan menurun postnatal. AFP terekspresi pada sel hepatoblast. Pada kondisi hati normal, tidak semua sel yang mengekspresikan OV6 juga mengekspresikan AFP. Ekspresi OV6 berkaitan dengan pembentukan duktus biliaris. Ekspresi AFP berkaitan dengan aktivitas proliferasi sel hepatoblast maupun sel oval. Peningkatan ekspresi AFP dan OV6 menunjukkan proliferasi sel oval yang ditemukan pada kondisi kerusakan hati kronis.

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ABSTRACT

Oval cells, identified with OV6, are resident stem cells in adult liver that involved in liver regeneration. These cells are found during embryonic liver development and have similar characteristics with fetal hepatoblast. It is thought that oval cells are fetal hepatoblast remnants. However, relationship between oval cells and hepatoblasts, expression patterns and distribution of OV6 and AFP in liver development are not yet known. Observational analytic studies were done on Wistar rat's livers ED12.5, ED14.5, ED16.5, ED18.5, neonates, 8 weeks, and 7 months. The tissues were histologically processed and stained with HE and immunohistochemistry OV6 and AFP. OV6 expression appeared at age ED16.5 in ductal plate cells which are primitive bile ducts, reached peak in neonates and decreased in adults. In neonates and adults rats, OV6 expression were distributed in bile ducts, canal of Hering, and periportal. AFP were expressed in hepatoblasts, started at ED12.5, reached peak at ED18.5, decreased after birth. In normal liver, AFP was not expressed in all OV6 cells. OV6 expression are related to bile duct formation. Meanwhile, AFP expression are associated with proliferative activity of hepatoblasts and oval cells. Increased expression of AFP and OV6 indicates proliferation of oval cells found in chronic liver injury.