

HETEROGENIC DIFFERENTIATION OF OVAL CELLS
AFTER PARTIAL HEPATECTOMY AND *Clonorchis*
sinensis INFECTION IN HAMSTERS

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Oval cell is considered as facultative precursor cells for both hepatocytes and biliary cells, as well as hepatocellular and cholangiocellular carcinoma (CCC) during carcinogenesis or toxic liver injury. To investigate this concept, the fate of induced oval cells was chased after either partial hepatectomy (PH) or *Clonorchis sinensis* (CC) infection in Syrian golden hamsters. Two week treatment of hamsters with 0.005% DEN followed by 1 week treatment of acetylaminofluorene under choline deficient diet resulted in massive proliferation of BrdU labelled oval cells showing various distinct morphology and immunohistologic phenotypes for cytokeratin 19, GST-p, and OV-6. Oval cells also frequently form ductular-like structures or phenotypically show hepatocyte-like characteristics. In PH group, almost all oval cells differentiated into mature hepatocytes and reconstituted normal hepatic architecture. However, in CS-infected group, all hamsters developed anaplastic CCC and well differentiated cholangioma. The results of our study suggested that oval cells have bipotential to differentiate toward either hepatocytes or biliary cells depend upon which lineage promotion favors and CC-associated CCC might be a valuable model studying the cellular origin and sequential change during cholangiocarcinogenesis.