Dynamic changes of both IGFBPrP1 and transforming growth factor-β1 on liver tissue with fibrosis in mice

Lixin Liu*,1,2, Qianqian Zhang1, Haiyan Zhang1, Yongqiang Shi1.
1The First Hospital of Shanxi Medical University; 2The Institute of Liver Disease of Shanxi Medical University

**Background:** To investigate dynamic expressions of IGFBPrP1, TGF-β1, Smad3, Collagen I and FN, transforming growth factor-β1 probably relates to promote activation of HSC, promote the development of hepatic fibrosis. Meanwhile, this function of IGF-α was significantly positively correlated with the expression of IGFBPrP1, which was detected by immunohistochemistry staining. Meanwhile, expressions of IGFBPrP1, α-SMA, FN, and Smad3 were examined by Western Blot.

**Methods:** Liver fibrosis model of mice was made by intraperitoneal injecting with 5% TAA, 300mg/kg, three times per week, totally for 6 weeks. Collagen accumulation in liver tissues was detected by Masson staining. Distribution and dynamic expressions of IGFBPrP1, α-SMA, Collagen I, FN, TGF-β1, Smad3 were detected by immunohistochemistry staining. Meanwhile, expressions of IGFBPrP1, α-SMA, FN, and Smad3 were examined by Western Blot.

**Result:** During the progression of hepatic fibrosis, expressions of Collagen, IGFBPrP1, α-SMA, Collagen I, FN, TGF-β1, Smad3 were gradually increased. Correlation analysis of immunohistochemical staining: during liver fibrosis developing phases, IGFBPrP1 was significantly positively correlated with α-SMA, Collagen I, FN, TGF-β1, Smad3. The results of Western Blot analysis: Molecular weight of β-actin, IGFBPrP1, α-SMA, FN, Smad3 were 43, 31, 45, 220 and 58Kd. The contents of IGFBPrP1, α-SMA, FN, Smad3 were significantly increased in model group compared with control group, which were gradually increased with process of fibrosis. There was a significant difference among model group. Correlation analysis of Western Blot analysis: There was a positive correlation between the expression of IGFBPrP1 and the expression of α-SMA, FN, Smad3.

**Conclusion:** IGFBPrP1 was involved in the formation and development of hepatic fibrosis; Meanwhile, this function of IGFBPrP1 probably relates to promote activation of HSC; promote the synthesis and secretion of both collagen and FN; affect TGF-β1/Smad3 pathway.

---

**PP-038 Dynamic expression of hypoxia inducible factor-1α during the development of hepatocellular carcinoma and its clinical values**

Lwei Qiu*, Jing Qian, Dengfu Yao. Research Center of Clinical Medicine, Affiliated Hospital of Nantong University, Nantong, China

**Objective:** To investigate the dynamic expression and alteration of hypoxia inducible factor-1α (HIF-1α) and its pathological features in hepatocellular carcinoma (HCC).

**Methods:** Hepatomas model was induced with 2-FAA on male SD rats for investigating dynamic changes of HIF-1α. Liver specimen from HCC patients were collected by self-control method. The expression, cellular distribution, and pathological features of HIF-1α were analyzed by immunohistochemistry.

**Results:** Rat hepatocytes from granule-like degeneration to atypical hyperplasia and HCC development, and the progressing increasing of the levels of hepatic HIF-1α and HIF-1α mRNA expression during the course. The levels of HIF-1α in hepatoma tissues and sera were significantly higher than those in normal and degeneration ones. There was positive relationship of HIF-1α levels between them in hepatoma tissues and sera (P<0.05). The positive HIF-1α was brown as brown and granule-like, mainly presented in cytoplasm and few in nucleus. The incidence was 80% (28/35) in HCC, and 100% (35/35) in its surrounding tissues (P<0.001), respectively. The clinical pathological features of HIF-1α expression demonstrated that it correlated with tumor size, and its intensity was negative correlated with the differentiation of HCC. No correlation was found between HIF-1αand tumor numbers or serum AFP level or positive-HBSAg.

**Conclusions:** Hepatic HIF-1α overexpression are associated with development and prognosis of HCC.

---

**PP-039 Determine the new serotype 6C Streptococcus pneumoniae by serological method**

Zunjie Liu*, Kaihu Yao, Lin Yuan, Wei Gao, Sangjie Yu, Yonghong Yang. Beijing Pediatric Research Institute, Beijing Children’s Hospital affiliated to Capital Medical University

**Objective:** To prepare serotype 6C diagnostic Streptococcus pneumoniae antisera, to determine it was a new serotype.

**Methods:** Serotype 6C was determined in USA by using multibean assay. Immunizing rabbits with serotype 6C pneumococcal strains for one month. Detected the capsular titres of antiserum with 6A, 6B and 6C before absorbed and latter by cross-reaction strains. None capsular reactions were detected from the anti-

---

**Table 1. Capsular titers of serotype 6C rabbit antisera to type 6A, 6B and 6C**

<table>
<thead>
<tr>
<th>Antisera</th>
<th>1×</th>
<th>2×</th>
<th>4×</th>
<th>8×</th>
<th>16×</th>
<th>32×</th>
<th>64×</th>
<th>128×</th>
</tr>
</thead>
<tbody>
<tr>
<td>6A</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>6B</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>6C</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>