6605 POSTER

Effects of recombinant human growth hormone on the proliferation and the expression of GHR of human liver cancer cell in vitro

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Background: Treated with recombinant human growth hormone (rhGH), the patients could significantly improve their nutritional status. Concerning the safety problem of rhGH to the tumor tissue, the clinical application of rhGH in the treatment of cancer had not be warranted. Growth hormone receptor (GHR) was the key point of growth hormone/insulin-like growth axis, so the expression of GHR located at the membrane of tumor cells was likely to play a importent role in which rhGH promoted the tumor to grow. Low levels of GHR were expressed in human hepatocellular carcinoma. Whether the GHR was functional or not had not yet reached a consensus, and if rhGH could change density of GHR expression in liver cancer cell was still not clear. So this study was designed to observe the effects of rhGH on human hepatocellular carcinoma expressed diffferent GHR in vitro.
Materials and Methods: Four groups were assigned according to the cell line treatment modes: untreated group, 50 ng/ml rhGH treated group, 100 ng/ml rhGH treated group, 200 ng/ml rhGH treated group. The expression of GHR in human liver cancer cell lines was detected by immunohistochemistry, fluorescence and radioligand assays. ByMTT, CFSE and ELISA, effects with different concentrations of rhGH on the cell proliferation rate of human liver cancer cell lines were analyzed.
Results: HepG-2 in which GHR was high-expressed: compared with the untreated group, the growth rates, concentrations of IGF-1 were significantly increased in groups with different concentrations of rhGH ($P < 0.05$), and the fluorescence intensities of CFSE were significantly degraded ($P < 0.05$). Expressions of GHR were significantly increased in the treated groups ($P < 0.05$). But there was no remarkable effect on SMMC7721 in which GHR was low-expressed and QGY-7701 without expression of GHR ($P > 0.05$).
Conclusions: rhGH could stimulate the growth of tumor cell lines and increase the expression of GHR in which GHR was high-expressed such as HepG-2. However, such effects were not remarked for tumor cells in which GHR was low-expressed or no-expressed in vitro.

6606 POSTER

Innovation in surgical treatment of the hepatocellular carcinoma with vascular invasion

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Background: The thrombosis or invasion of a hepatocellular carcinoma (HCC) in a portal vein is bad prognostic criterion at an estimation of the remote results of surgical treatment. The invasion of the tumor to retrohepatic segment of the inferior vena cava (IVC) makes known technical difficulties at a tumor resection. Results of surgical treatment of a HCC with an invasion in a portal and IVC remain unsatisfactory, however the quantity of similar patients steadily grows. It dictates necessity of carrying out of the further researches for the given direction for improvement of results of treatment.
Purpose: to develop new methods of a resection and reconstruction of a portal vein and IVC at surgical treatment of a HCC for improvement of results.
Material and Methods: 91 patients with a HCC undergoing liver resection from January 2003 y till December 2008 y was included in research. 76 patients underwent radical liver resections (R0). 23 patients with a PV thrombosis have made the basic group. 68 patients were included in control group with a tumor thrombosis of branches of a PV 2−5 order. Results of a resection and reconstruction of the retrohepatic segment of the IVC was analyzed at 9 patients with tumoral invasion. In all cases the size of a tumor exceeded 10 cm.
Results and Discussion: At patients of the basic group are executed 13 expanded (more than 3 segments) and 10 extended (more than 5 segments) liver resections. In all cases of the basic group the total caudal lobectomy was executed. A resection of a PV was made in 2−3 mm from visible border of a tumoral thrombus. We used 4 methods reconstruction of PV. At patients of control group was executed 38 extensive, 15 expanded resections of a liver and 15 resections of two segments of a liver. Character and quantity of complications were similar in both groups except small for size syndrome, which authentically met in the basic group. The postoperative mortality till 30 days in the basic group was 8.7% (2 patients), in control group – 6.6% (5 patients). Average life expectancy of patients after a resection and reconstruction IVC has made 30 months.
Conclusion: Aggressive surgical approach for HCC patients with a tumoral PV thrombosis and IVC invasion, including a resection of the amazed part of a liver, a total caudal lobectomy, a resection of the amazed part of a PV or IVC allows to obtain satisfactory results with comprehensible level of a mortality and survival rate.

6607 POSTER

The possibilities of the expansion of surgical treatment of patients with tumoral affects of liver

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Background: The studying of the possibility of the expansion of volume of operative intervention at patients with primary and metastatic liver cancer.
Material and Methods: In the period of 2008–2009 years on clinical bases of the Departments of Operative surgery and topographical anatomy and Hospital surgery of the Faculty of General Medicine 11 patients have been undergone to resectional interventions concerning primary (n = 4) and metastatic (colorectal metastases, n = 7) liver cancer. The middle age has made 65.81±1.58 years. Among them in 10 cases anatomic resections of liver have been performed. At synchronous metastasises in contralateral hepatic lobe for the intraoperational thermoablation the induction aquatherm destructor Electrotom®106 HITT (AqDEI) with the working frequency of 343 kH has been used.
Results. The average duration of the operative interventions has made 160.58±8.04 min. The intraoperational blood loss has varied from 300 ml to 1200 ml (724.82±81.36 ml). For the purpose of the reduction of the intraoperational blood loss and ablation the lines of the resection we have applied the liver edge processing with AqDEI in all the supervision. The use of the intraoperational thermoablation has allowed to spend one-stage destruction of metastasises remaining in parenchyma of liver. The method of intraoperational thermoablation has applied by us at 5 supervisions of primary and metastatic liver cancer. For the final hemostasis of the wound surface in the 7 cases after aquathermdestruction of liver edges we have used the application of haemostatic plates “Trombocol”. In all the supervisions the stable haemostatic answer has been reached. In the postoperative period the complications have been revealed at 3 patients (purulence of the postoperative wound). The duration of hospitalisation after the operation has made 13.64±1.07 days. All the patients have been discharged in a satisfactory condition with the recommendations of caring out of adjuvant system chemotherapy. In 7 months after the intervention one patient operated apropos liver carcinosarcoma has died.
Conclusions. Our modest experience allows to make the assumption that the expansions of the volume of the operation is possible with the help of destruction of the remaining metastatic foci. The further accumulation of the experience will allow to take one more step to the decision of the problem on the expansion of indications for surgical treatment for patient with malignant liver tumours.

6608 POSTER

Evaluation of analgesic effect of N2O/O2 inhalation, during percutaneous biopsy of focal liver lesions: a randomized study

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Background: The aim was to compare the efficacy, tolerance, safety and feasibility of analgesia with N2O/O2 inhalation (Kalinox ®) during a percutaneous liver biopsy (PLB) of focal lesions with a control group receiving placebo.
Patients and Methods: A monocentric, prospective, randomized, and double-blind study was performed between October 2007 and December 2008, including 99 patients undergoing a PLB. Fifty patients received Kalinox ® and 49 received placebo. Patients evaluated their pain before and after the procedure using visual analog scale (VAS).
Levels of pain were compared in both groups as well as success of PLB, safety, and patient’s satisfaction.
Results: Demographics and lesion size were comparable in both groups. However, lesions were more often difficult to reach and less often visible in the Kalinox ® group. The difference between the post and pre VAS score was significantly reduced in the Kalinox ® group compared to the control group (p = 0.045). Tolerance, safety and feasibility were comparable in both groups.
Factors significantly associated with negative biopsy were Kalinox ®, lesion difficulty and poor lesion visibility with univariate analysis. Multivariate analysis showed that lesion difficulty was the only significant factor. The satisfaction rate was significantly higher in the Kalinox ®, group (p = 0.026).
Conclusions: In our study, patients in the Kalinox ® group had a significant reduction in the difference between the post and pre VAS score. Furthermore, patient satisfaction was higher is this group.