■ Sun-061 ■

Evaluation of the clinical usefulness of adding serum AFPL3 and PIVKAII levels to serum AFP level

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Background/Aims: Alpha-fetoprotein(AFP), AFP-L3, and prothrombin induced by vitamin K abscence or antagonist-II (PIVKA-II) have been used in detection of HCC. However, clinical usefulness of these tumor markers is not well established. We investigated the clinical significance of AFP, AFP-L3, and PIVKA-II as tumor markers. **Methods:** Patients who underwent serum AFP, AFP-L3, and PIVKA-II for evaluation of space-occupying lesion (SOL) in liver and elevated serum AFP without liver SOL were retrospectively reviewed. AFP >5 ng/mL, AFP-L3 >5%, PIVKA-II >40 mAU/mL were used as the cut-off value, respectively. **Results:** A total of 252 patients were included. Median serum AFP, AFP-L3, and PIVKA-II level were 0.9 ⌖ 1.1 log10 ng/mL, 9.0 ⌖ 21.0%, and 756.6 ⌖ 4381.5 mAU/mL, respectively. 17.9% of benign SOL patients had elevated AFP, while 62.4% of HCC patients elevated AFP. (P<0.001) Similarly, 3.7% of benign SOL patients had elevated AFP-L3 levels, while 35.3% of HCC patients had elevated AFP-L3 levels. (P<0.001) In patients without liver SOL who had elevated AFP levels, 72.7 % patients had elevated AFP only, while 15.2% had elevated AFP and AFP-L3, and 12.1% had elevated AFP and PIVKA-II. None of the patients without liver SOL showed elevation of all three tumor markers. **Conclusions:** In patients with liver SOL, combination of AFP-L3 and PIVKA-II improves sensitivity of AFP, while not having a significant effect on specificity. None of the patients with elevated AFP without liver SOL showed parallel elevation of all three markers. Therefore, combined evaluation of these tumor markers would be beneficial in differential diagnosis.

	Liver SOL (n=219)	AFP elevation without Liver SOL (n=33)	P
Age	56 ± 13.28	52.27 ± 13.98	0.137
Male, n (%)	130 (59.4%)	12 (36.4)	0.013
Etiology, n (%)			0.019
HBV	74 (33.8%)	17 (51.5%)	
HCV	12 (5.5%)	0 (0.0%)	
Alcohol	23 (10.5%)	4 (12.1%)	
Other	5 (2.3%)	3 (9.1%)	
Liver cirrhosis, n (%)	81 (37.0%)	10 (30.3%)	0.456
HCC, n (%)	85 (38.8%)	0 (0.0%)	< 0.001
Mortality	11 (5.0%)	1 (3.0%)	0.616
INR	1.1 ± 0.2	1.1 ± 0.2	0.832
ALT, IU/L	37.2 ± 36.7	83.6 ± 170.0	< 0.001
Bilirubin, mg/dL	1.4 ± 2.2	1.8 ± 3.7	0.32
Albumin, g/dL	4.2 ± 0.6	4.0 ± 0.6	0.143
Creatinine, mg/dL	1.1 ± 1.5	0.8 ± 0.2	0.322
AFP, ng/mL	17677.7 ± 176542.2	73.6 ± 138.3	0.568
PIVKA-II, mAU/mL	867.6 ± 4691.3	20.2 ± 27.3	0.301

	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)
AFP	62.4	82.1	68.8	77.5
AFP-L3	35.3	96.3	85.7	70.1
PIVKA-II	50.6	95.5	87.8	75.3
AFP or L3	68.2	82.1	70.7	80.3
AFP or PIVKA	76.5	78.4	69.1	84
AFP or L3 or PIVKA	80	78.4	70.1	86.1

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Mumps induced both pancreatitis and parotitis in liver transplant recipients

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Viruses are the most common cause of opportunistic infections, important complications of transplantation. Mumps infection was well-known as a cause of parotitis, and rarely encephalitis, orchitis, pancreatitis. Mumps vaccination in Korea has been started since 1985, but a recent epidemiologic report showed the increasing trend in post pubertal age group. However, mumps infection associated with both pancreatitis and parotitis in adult liver transplant recipients is rare. This report focused on a 45-year-old man who underwent liver transplantation for the alcoholic liver cirrhosis four years ago. He presented a periumbilical and right back pain for 4 days. After one day, he complained with severe both neck swelling and fever. Neck and liver dynamic computed tomography scans showed the bilateral submandibular sialadenitis without sialolithiasis and interstitial edematous pancreatitis. Laboratory findings demonstrated positive for enzyme immunoassay mumps IgM antibodies and negative for mumps IgG antibodies consistent with an acute mumps infection and an increased serum amylase and lipase level. Other respiratory viruses including parainfluenza virus were all negative. He had recently received increased drug dose of tacrolimus, everolimus and steroid due to the rejection for prior one month. The patient was treated with reduced immunosuppressive agents and conservative care and improved over a period of 5 days. We should carefully consider the mumps as a cause of rare opportunistic infection in the transplanted patients although there is an available vaccination against mumps.