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新乡地区健康检查者血清中 ALT 活力的参考值及 HBsAg 携带率的调查 【流行病学与预防保健】

Investigation on Reference Value of ALT and Carrying Rate of HBsAg among

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摘要 目的 建立新乡地区健康人群血清丙氨酸氨基转移酶(ALT)活力的参考值和参考区间,并调查该地区乙型肝炎病毒表面抗原(HBsAg)的携带率。方法 对 13 886 名(年龄 6~65 岁)无明显肝、肾、心、肌肉等脏器及组织病变的健康检查者,采用速率法经过有效性验证的检测系统进行血清中 ALT 活力测定,HBsAg 采用酶联免疫吸附法测定。对 ALT 结果的频数分布进行正态性检验,性别间结果差异的比较采用 *t* 检验。符合正态性分布时,用平均数 $\pm 1.96 s$ 为参考区间;不符合正态性分布时,取 2.5%~97.5% 百分位数为参考区间。HBsAg 携带率用百分比表示。结果 ALT 结果的频数分布为非正态性分布,男女之间结果差异有统计学意义($t=8.362, P=0.000$)。按照 2.5%~97.5% 百分位数确定的参考区间为:男 4.9~43.0 U/L,女 5.0~44.3 U/L。HBsAg 携带率为 6.29%。结论 该结果 ALT 活力的参考区间及 HBsAg 携带率与以往报道的有一定的差别。应该建立不同地区 ALT 活力测定的参考值和参考区间。

关键词 血清丙氨酸氨基转移酶;参考值;乙型肝炎病毒表面抗原;携带率

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Subject Investigation on Reference Value of ALT and Carrying Rate of HBsAg among

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Abstract [Objective] To establish the reference value and reference range of alanine aminotransferase (ALT), and survey the carrying rate of hepatitis B surface antigen (HBsAg) in Xinxiang area. [Methods] Totally 13 886 normal people (aged 6~65) without distinct liver, kidney, heart, muscle and tissue lesions were selected. The ALT activity was measured by speed method which had been validated validity. HBsAg was tested by ELISA. Normal test by frequency distribution was performed on ALT results, and results distinction between genders was examined by *t* test. Mean value $\pm 1.96s$ was adopted as reference range, if the result was consistent with normal distribution; if not consistent with normal distribution, 2.5%~97.5% percentile was adopted as reference. HBsAg carrier rate was expressed in terms of a percentage. [Results] The frequency distribution of ALT results was not normal distribution. The difference of result between genders was significant ($t=8.362, P=0.000$). The reference ranges were male 4.9~43.0 U/L, female 5.0~44.3 U/L based on 2.5%~97.5% percentile. HBsAg carrying rate was 6.29%. [Conclusion] The reference range of ALT activity and HBsAg carrying rate is different from those of former report. It is necessary to establish the reference value and reference range of ALT activity.

Key words ALT; The reference value; HBsAg; Carrying rate

血清丙氨酸氨基转移酶(alanine aminotransferase, ALT),主要存在于各种组织细胞中,以肝细胞中含量最多。正常时只有极少量释放入血液中,故血清中该酶活力很低。各种肝炎的急性期,药物中毒性肝细胞坏死等疾病时,肝细胞酶大量释放入血中,使血清中 ALT 活力显著增高。鉴于 ALT 和肝脏功能的密切关系,临床上一一直将其作为重要的常规肝功能试验指标。

乙型肝炎表面抗原(hepatitis B surface antigen, HBsAg)是临床诊断乙型肝炎的重要指标。随着科学技术的进步和方法学的发展,自动化分析代替了手工操作,结果的准确性和精密度都有很大提高。由于方法学原理不同,检测灵敏度、特异性和影响因素各异,不同方法间的参考值也不相同。为确定本地 ALT 活力的参考值及 HBsAg 携带率,我们对新乡地区健康人群进行了调查,现予报道。

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1 对象与方法