Comparison of methods for the quantification of albumin in serum and cerebrospinal fluid

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Introduction: Albumin is the protein that marks the passage of cerebrospinal fluid proteins into the serum.

Objective: Determinate if the modified ELISA method is better than the bromocresol green method for serum in terms of specificity and sensitivity and in methods for quantifying cerebrospinal fluid.

Materials and methods: Serum albumin was quantified by bromocresol green dye technique and by using the modified microalbuminuria method and for albumin in cerebrospinal fluid, the pyrogallol molybdate red complex technique and the bromocresol green method were used. **Results:** Compared methods in serum, the modified ELISA method had a sensitivity of 100%, a specificity of 80% and the cut-off point was less than or equal to 58 g / L. In both fluids the bromocresol green method had a sensitivity of 72.7%, specificity of 60% and the cut-off point was greater than 34g / L. The areas under the ROC curves of the two methods did not show significant differences for p = 0.074. In the methods for cerebrospinal fluid the pyrogallol molybdate red complex had a sensitivity of 88.9% and a specificity of 90.5 and the cut-off point was less than or equal to 960mg / L and the bromocresol green method had a sensitivity of 66.7, a specificity of 85.7 and a cut-off point less than or equal to 700mg / L. The comparison between the ROC curves of the two methods studied was significant with p=0.138.

Conclusions: The modified ELISA method is better than the bromocresol green method for serum in terms of specificity and sensitivity and in methods for quantifying cerebrospinal fluid albumin both methods do not show significant differences and have lower specificity and sensitivity than methods for quantifying albumin.

Key words: albumin, serum, cerebrospinal fluid