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# FSH, LH AND PROLACTIN COMPARED METHODS: CHORUS TRIO DIESSE vs SIEMENS VISTA

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**Introduction**: The measurement of FSH, LH and PRL hormones is widely used today in clinical practice for fertility evaluation, such as screening and follow-up of gonadal disorders and pituitary gland. Both in males and females, FSH, LH and PRL secretion is necessary for normal sexual function and is regulated by the interaction of positive and negative feedback mechanisms that relate to secretion of pituitary hormones, hypothalamus and gonads. In this study we assessed the performance of the Chorus Trio Diesse by comparison with Vista Siemens.

**Material and Methods**: FSH, LH and PRL were measured in 99, 134 and 99 respectively serum samples of patients arriving in our laboratory for routine analysis using both Siemens Vista and Chorus Trio Diesse methods. The dosage method to evaluate Chorus Trio Diesse is an immunoenzymatic method compared to the homogeneous chemiluminescent method based on LOCI® Technology of Siemens Vista method. The results obtained by the two methods were subjected to analysis Bland-Altman and Passing-Bablok. The statistical analyses were performed with SPSS version 11.0.

**Results**: Comparing the two methods, the results at Passing-Bablok analysis was for FSH, r=0.97; Intercept = -1.5189 (95% CI= -2.3317 to -0.7650), for LH r=0.94; Intercept = -0.2225 (95% CI= -0.4926 to 0.0118), for PRL r=0.98; Intercept = -24.0200 (95% CI= -42.9158 to -3.5298). Bland and Altman analysis showed mean differences for FSH 4.359 (+1.96 SD= +29.292 and -1.96 SD= -20.573), for LH, -0.994 (+1.96 SD= +11.165 and -1.96 SD= -13.154), for PRL, -62.157 (+1.96 SD= +415.78 and -1.96 SD= -540.094).

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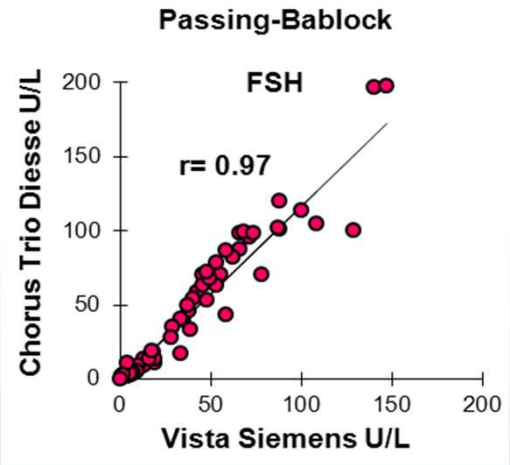
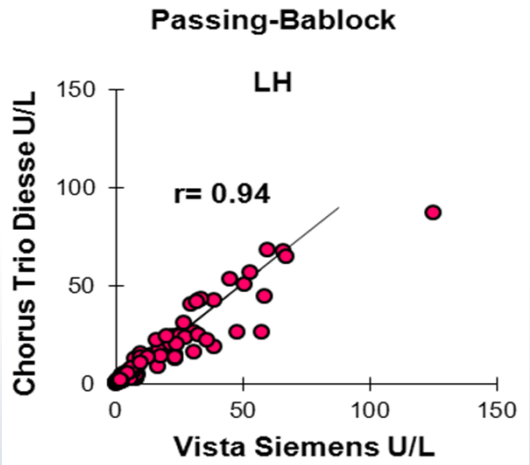
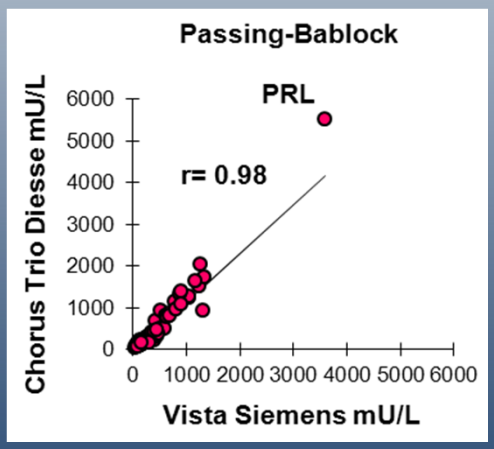



| FSH | Coefficient | 95% CI of Coefficient | |
|---|---|---|---|
| Intercept | -1,5189 | -2,3317 | to -0,7650 |
| Slope | 1,1819 | 1,0822 | to 1,2716 |




| LH | Coefficient | 95% CI of Coefficient | |
|---|---|---|---|
| Intercept | -0,2225 | -0,4926 | to 0,0118 |
| Slope | 1,0344 | 0,9823 | to 1,1376 |




| PRL | Coefficient | 95% CI of Coefficient | |
|---|---|---|---|
| Intercept | -24.0200 | -42.9158 | to -3.5298 |
| Slope | 1.1703 | 1.0353 | to 1.2459 |

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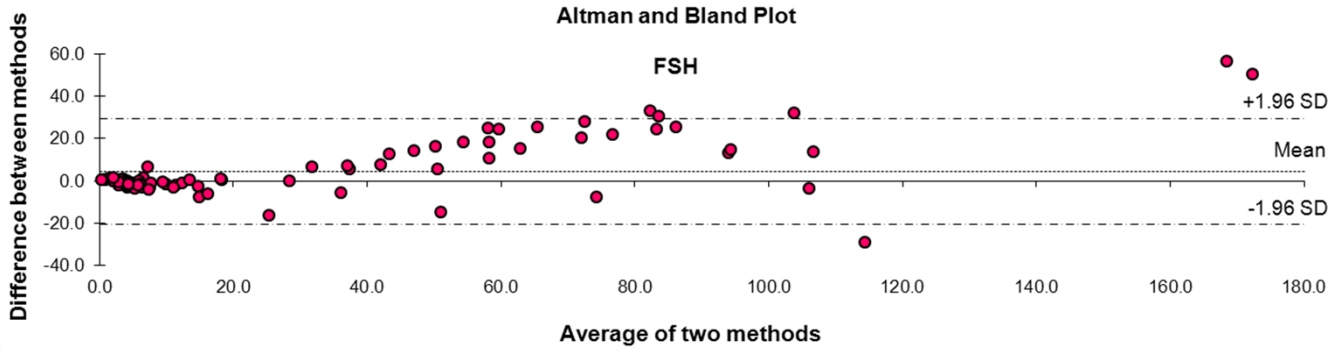
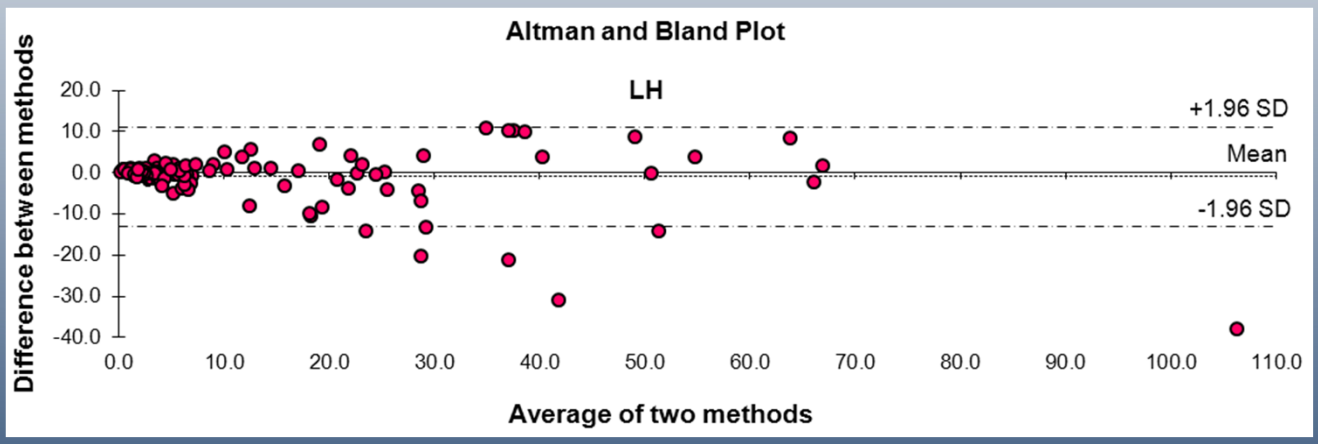



| FSH | Estimate | 95% CI | |
|---|---|---|---|
| Lower Limit | -20,573 | -24,9908 | to -16,1561 |
| Bias | 4,359 | 1,8089 | to 6,9096 |
| Upper Limit | 29,292 | 24,8746 | to 33,7093 |




| LH | Estimate | 95% CI | |
|---|---|---|---|
| Lower Limit | -13,154 | -14,9966 | to -11,3105 |
| Bias | -0,994 | -2,0582 | to 0,0700 |
| Upper Limit | 11,165 | 9,3222 | to 13,0083 |

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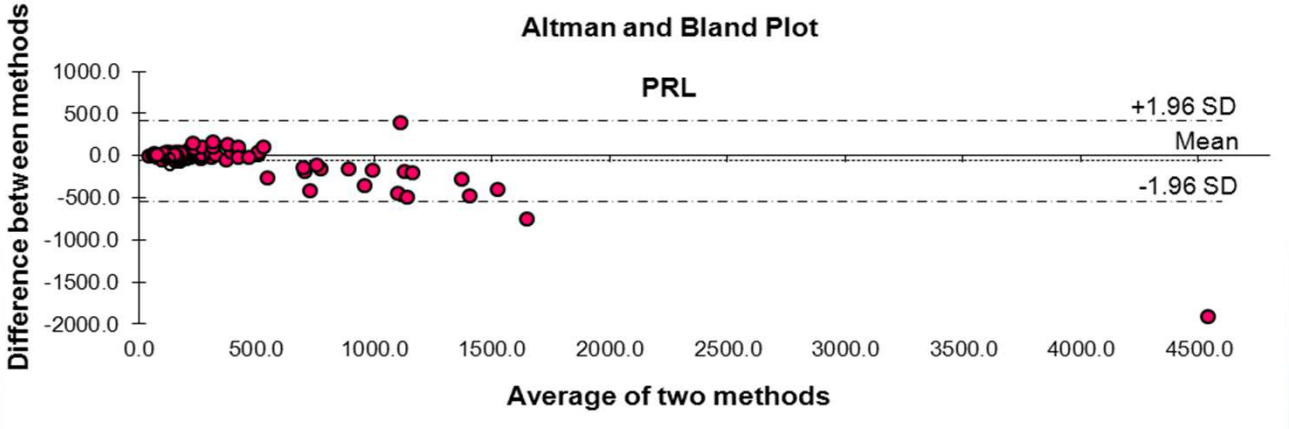


| PRL | Estimate | 95% CI | |
|---|---|---|---|
| Lower Limit | -540.094 | -624.7705 | to -455.4177 |
| Bias | -62.157 | -111.0452 | to -13.2693 |
| Upper Limit | 415.78 | 331.1032 | to 500.4560 |

**Conclusions**: Based on the results obtained by comparing the two methods for the three analytes, the Chorus Trio Diesse generally has good analytical performance compared to Siemens Vista, but the best and overlapping results are obtained at low concentrations. Indeed, at high concentrations, Chorus Trio Diesse tends to be more imprecise. The possible use must be supported by the reference values of the healthy population and in different physiological conditions in relation to the new method.