Technologists Poster Session 3

Tuesday October 13, 2009 08:00h - 09:30h
Room: Hall 117

TP075
09:12h - 09:15h

A software for automatic calculation of effective renal plasma flow with ^{131}I-Hipuran

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Introduction: effective renal plasma flow (ERPF) studies with ^{131}I-Hipurán are performed in large number in hospitals throughout the world. The calculation of the ERPF using the bicompartmental model proposed by Sapirstein is not very complex, but tedious and time-consuming. **Objective**: The goal of this work is to develop a computing facility to automatically calculate ERPF, using the bicompartmental model proposed by Sapirstein. **Materials and methods**: The equations used in the calculations are $FPRE = I\ \lambda a\ \lambda b / (A\ \lambda a + B\ \lambda b) = I\ \ln 2 / (A\ T_{1/2a} + B\ T_{1/2b})$ where $A_t = A\ e^{-\lambda a\ t}$ (fast exponential) $B_t = B\ e^{-\lambda b\ t}$ (slow exponential) I = doses in cpm $\lambda = \ln 2 / T_{1/2}$ For developing a software incorporating these calculations we have used Visual Basic 6.0 and Visual Studio Installer. **Results**: We have developed a form for automatic calculation of ERPF. This form relies on a database to store, manage and retrieve the data of ERPF studies. Moreover, the form offers the possibility of printing a detailed report of each study. This form is included in a software called Nucleolab, which is freely available at http://serfa.radiofarmacia.org/?m=27 **Conclusion**: The software we have developed has an easy-to-use interface, that makes the calculation complexity of ERPF studies completely hidden for the user, saving you the time that you previously spent on these laborious calculations and reducing the risk of error.

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