MODE OF ADMINISTRATION OF ERYTHROPOEITIN (rHu Epo) - DOES IT MATTER?

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It is generaly claimed that the dose of rHu Epo required is smaller when administrated by subcutaneous route (SC) than the intravenous one (I.V.). However, a recent editorial criticizes this statement and stresses the point most comparative studies have not been performed in steady state conditions.

The rHu Epo required to obtain a 30% hematocrit level was studied in 25 chronic hemodialysed patients treated sucessfully for at least one year by EpO-SC- and shifted to the I.V. road. The mean weekly dose required was estimated on two times three months periods. The data were compared to 22 patients who remained treated by Epo I.V. during the whole observation period to detect seasonal or incidental variation of Epo needs.

The table summarizes the main data. Although the mean Epo dose show a 22% increase, this difference does not reach significance level due to a very high variability between the patients. Further analysis however show a very significant increase in the dose required in the patients receiving low dose of Epo (67±26 U/kg/w in the SC and 130±59 in the I.V. road) wheras in patients receiving high dose no change was observed (182±97 and 162±128).
The increase in the dose required was already observed during the first months of use of the I.V. road. During the same period, the Epo dose required was not change in the control group.

	S.C.	I.V.	p*
Dose (U/kg/week)	122,04 90,13	145,9 ± 97,8	NS
Hb gr%	9,84 ± 0,87	10,12 ± 0,57	NS
Hct %	30,06 ± 2,5	32 ± 2,04	0,003
NBR RBC	3,39 ± 0,42	3,41 ± 0,46	NS
Reticulocytes	2,31 ± 0,79	2,68 ± 0,96	NS
Ferritin	71,8 ± 35,11	73,42 ± 38,22	NS
*t student for paired data	NS: >0,05		

Conclusion: As a whole the administration of rHu Epo by I.V. lead to an 20% increase of the dose required, but this change is only significant in patients receiving rather small dose, lower than 100 U/kg/week.