A CONTINUING MEDICAL EDUCATION ACTIVITY

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Online Expert Poster Review and Discussion

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Vitamin D Deficiency Is Frequent In Chronic Hepatitis C And Affects The Outcome Of Interferon-alfa Based Therapy

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Abstract 443

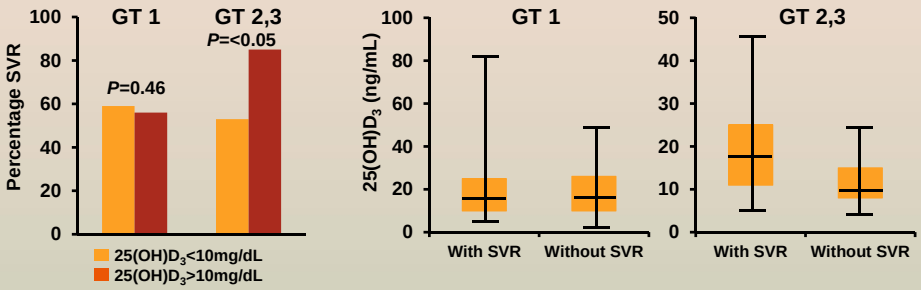
Vitamin D Deficiency is Frequent in Chronic HCV and May Affect Outcome of Therapy

- Vitamin D is an important immunemodulator and preliminary data indicate an association between vitamin D deficiency and SVR rates
- To study the impact of vitamin D serum levels and of genetic polymorphisms with functional relevance within the vitamin D cascade on chronic HCV and treatment outcome

Vitamin D Deficiency in Patients with Chronic Hepatitis C

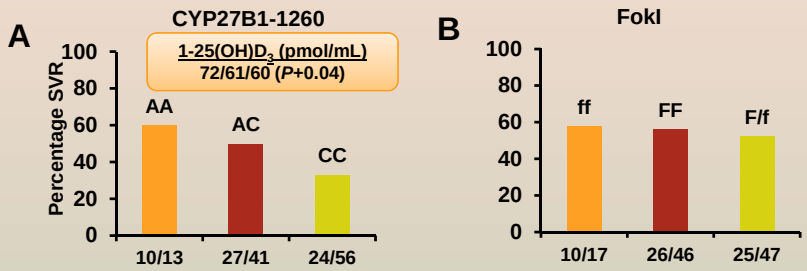
25(OH)D_3 (ng/mL)	All HCV Patients, n (%)	All F0-1, n (%)	All F2-4, n (%)	Genotype 1, n (%)	Genotype 2/3, n (%)	Control, n (%)
<10	115 (25)	57 (23)	42 (25)	69 (22)	46 (30)	1630 (12)
<20	310 (66)	165 (63)	117 (73)	203 (64)	107 (71)	5415 (41)
20-30	117 (25)	65 (25)	34 (21)	82 (26)	35 (23)	3968 (30)
30-100	37 (8)	27 (8)	8 (5)	28 (9)	9 (6)	3927 (29)
>100	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	23 (0.2)

Correlation of 25(OH)D_3 Serum Concentrations with SVR



- Figure a shows SVR rates of patients with and without severe vitamin D deficiency, defined as 25(OH)D_3<10ng/mL. SVR rates are shown independently for patients infected with HCV Genotypes 1 and 2/3 who were treated with pegylated interferon-alfa and ribavirin. Figure b did or did not achieve a SVR. Unlike in HCV genotype 1 patients, SVR rates were associated with 25(OH)D_3 serum concentrations in HCV GT2/3 patients (p<0.001).

Correlation of the 1-alpha-Hydroxylase Promoter Polymorphism and Vitamin D Receptor Polymorphism with SVR



- Data from 63 patients infected with HCV genotype 1 and of 47 patients infected with HDV genotype 2/3 are shown. Figure A) SVR rates are significantly higher in patients homozygote for CYP27-1260 AA compared to CYP27B-1260 AC or CYPB27-1260 CC carriers, P<0.05. Numbers in the box above bars indicate serum concentrations of 1-25-hydroxyvitamin D of patients with the indicated CYPB27-1260 polymorphism. Numbers below bards indicate absolute numbers of patients with SVR of all patients carrying the indicated alleles. Figure B) The FokI polymorphism was not associated with SVR of all patients carrying the indicated alleles.

ff=presence of a restriction site in both alleles
FF=absence of a restriction of site in both alleles
F/f=presence of a restriction site in on alleles

Conclusions

- Patients with chronic hepatitis C are at high risk for vitamin D deficiency which may require supplementation
- The vitamin D metabolism may have an impact on the response to treatment in chronic hepatitis warranting further studies
- Polymorphisms of the 1-alpha-hydroxylase promoter were neither associated with spontaneous clearance nor with less fibrosis progression