

The effect of anti-TNF therapy on thyroid function in patients with inflammatory bowel disease

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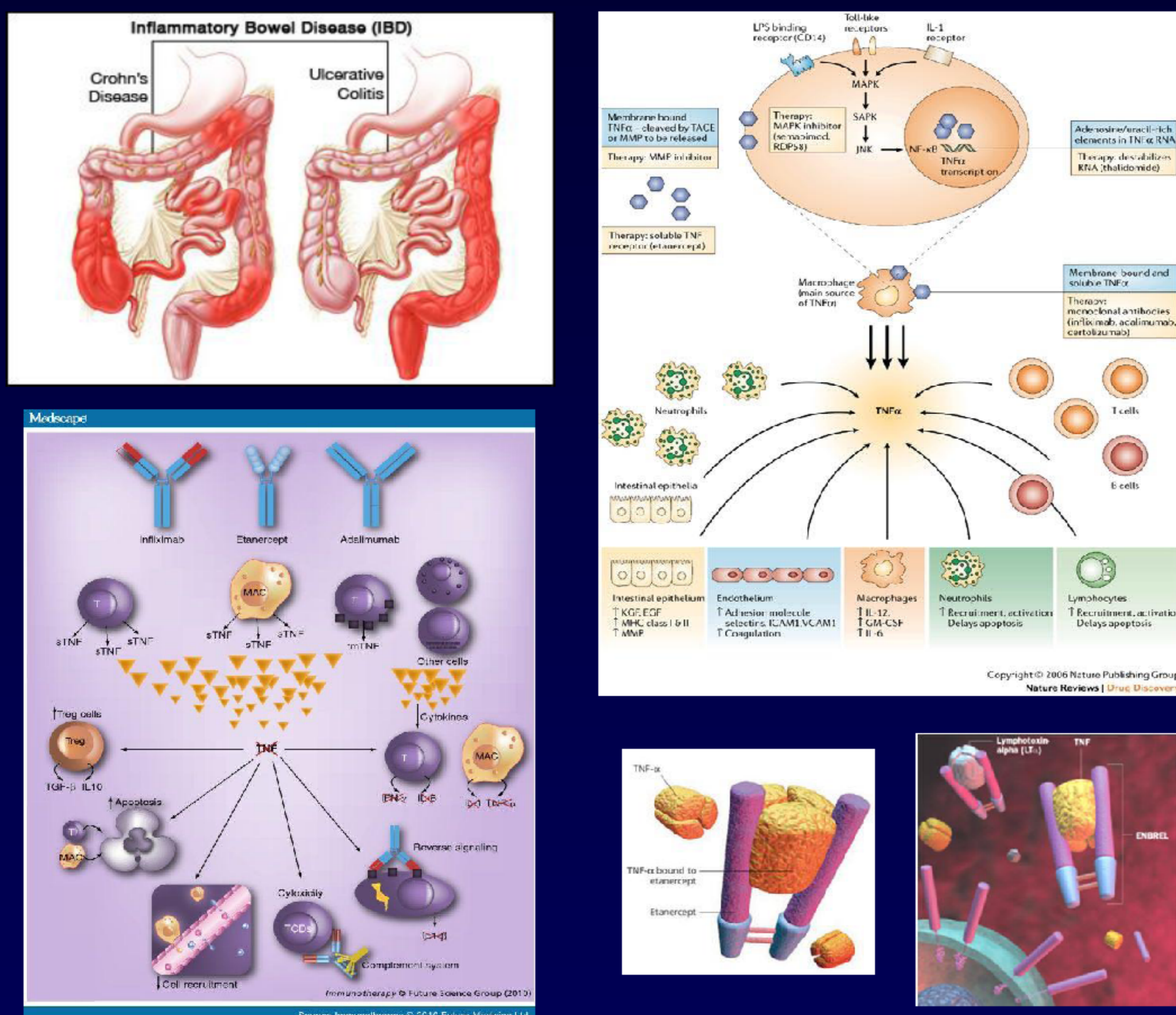
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Introduction: Inflammatory bowel disease (IBD) has been associated with various disorders of thyroid function. Many of these patients are now treated with biological agents targeting TNF- α . The aim of this study was to investigate thyroid function in patients with IBD and the potential effect of anti-TNF therapy.

◆ Patients from the anti-TNF group had reduced levels of FT4, with no differences in T3 levels and TSH.

◆ The percentage of patients with positive thyroid autoantibodies was lower in the anti-TNF group, 5.6% (1/18) vs 17.4% (4/23), but without statistical significance ($p > 0.05$).



Korzenik and Podolsky, *Nature Reviews* 2006;5:197-209
Silva et al, *Immunotherapy* 2010;2:817-833

Patients & Methods: We studied 41 patients with IBD (25M/16F, 36.4 \pm 11.0 yrs), without any known thyroid disorder. Eighteen patients (9M/9F, 33.6 \pm 8.8 yrs) were on anti-TNF therapy for more than 1 year, while 23 patients (16M/7F, 38.7 \pm 12.5 yrs) were treated with Azathioprine and Mesalazine (Aza/Mes). Nine patients from the second group were then switched to anti-TNF and studied again 6 months later. We assessed thyroid function by measuring T3, FT4, TSH, anti-TG and anti-TPO levels.

Results:

- ◆ In the whole cohort of 41 patients with IBD:
 - One patient presented with clinical and one with subclinical hyperthyroidism.
 - Thyroid autoantibodies were positive in 12.2% (1 anti-TG, 4 anti-TPO).

| | Aza/Mes (n=23) | Anti-TNF (n=18) | p value |
|------------------------------|---------------------------------|----------------------------------|---------|
| Age (years) | 38.7 \pm 12.5 | 33.6 \pm 8.8 | ns |
| Gender | 16M/7F | 9M/9F | ns |
| Thyroid functional disorders | 2/23 (8.7%) | 0/18 (0%) | ns |
| AutoAbs (+) | 3/23 (17.4%) | 1/18 (5.6%) | ns |
| T3 (nmol/l) | 2.02 \pm 1.7 (median 1.72) | 1.8 \pm 0.28 (median 1.78) | ns |
| FT4 (ng/dl) | 1.38 \pm 0.9 (median 1.15) | 1.09 \pm 0.15 (median 1.07) | 0.042 |
| TSH (mIU/ml) | 1.58 \pm 0.9 | 1.76 \pm 0.8 | ns |

◆ Patients who were treated for 6 months with anti-TNF had significantly lower FT4 levels without changes in T3 and TSH.

◆ No remarkable change was noted in the levels of thyroid autoantibodies.

| | Baseline (n=9) | 6 months after Anti-TNF (n=9) | p value |
|------------------------------|----------------------------------|----------------------------------|---------|
| Age (years) | | 45.2 \pm 11.5 | |
| Gender | | 7M/2F | |
| Thyroid functional disorders | 1/9 (11.1%) | 0/9 (0%) | ns |
| AutoAbs (+) | 2/9 (22.2%) | 2/9 (22.2%) | ns |
| T3 (nmol/l) | 1.5 \pm 0.43 (median 1.7) | 1.8 \pm 0.2 (median 1.84) | ns |
| FT4 (ng/dl) | 1.24 \pm 0.26 (median 1.19) | 1.11 \pm 0.16 (median 1.03) | 0.048 |
| TSH (mIU/ml) | 1.82 \pm 1.28 | 1.68 \pm 0.96 | ns |

Conclusions: Thyroid autoimmunity is common in patients with IBD, as with other autoimmune diseases. Treatment with anti-TNF results in a decrease of FT4 levels without any notable changes in other thyroid parameters.