

# Summary of Findings

## Inflammation / General Markers

- **CRP 2.2 mg/L – Normal** → No active inflammation.
- **Cholesterol 3.7 mmol/L – Low-normal**, suggesting good cardiovascular control but possible zinc deficiency (cholesterol synthesis is zinc-dependent).
- **Glucose 4.3 mmol/L – Optimal**, good metabolic stability.

## Thyroid Function

- **TSH 1.25, Free T4 18.1, Free T3 5.0, TPO < 6 – Normal.**  
→ Euthyroid; no autoimmune involvement.

## Iron Studies

- **Ferritin 264 µg/L ↑, Iron 16 µmol/L (N).**  
→ Excess hepatic iron storage without overload—likely hepatic retention rather than inflammation.

## Haematology

- **Hb 125 g/L (N)** (improved from 114 g/L).
- **MCV 96.7 fL ↑ slightly** → **macrocytosis**, suggesting low B<sub>12</sub>/folate/protein.
- **Neutrophils 2.9 ↓** → **possible protein, zinc, vitamin C deficiency.**
- **Basophils 0** → **possible B<sub>3</sub>/B<sub>12</sub>/folate deficiency.**
- **Platelets 241** → **normal but may reflect EFA imbalance.**

## Biochemistry

- **Na/K ratio 29.5** → suggest ↑ potassium foods.
- **Ca/P ratio 2** → **possible calcium deficiency or malabsorption.**
- **Urea/Creatinine ≈ 82** → **may indicate high protein catabolism or low hydration.**
- **PMI 2.17** → **impaired protein synthesis.**
- **Albumin 41** → **borderline low (protein synthesis issues linked to low B<sub>6</sub> and zinc).**
- **GGT 11** → **low, possible B<sub>6</sub> deficiency.**
- **ALT 25** → **normal.**

- **Bilirubin 30 ↑ → mild, stable fluctuation likely benign (Gilbert's-type pattern).**

## Clinical Interpretation

### Pattern

- **Liver congestion + elevated ferritin + macrocytosis + mild nutrient deficiencies → suggests inefficient hepatic conjugation and protein synthesis**, not acute pathology.
- **Constipation and sluggish bile flow** are likely contributing to iron and bilirubin retention.

## Therapeutic Focus

### 1. Liver & Bile Flow Support

- **Cruciferous & bitter vegetables daily:** broccoli, kale, cabbage, rocket, endive, cauliflower, garlic, onion.
- **Cholagogues:** beetroot, globe artichoke, dandelion root, turmeric, lemon, ginger.
- **Hydration:**  $\geq 2$  L/day.
- **Avoid** alcohol, paracetamol, iron-fortified cereals.
- **Herbs:** St Mary's Thistle (Silybum), Dandelion Root, Schisandra, Globe Artichoke.

### 2. Iron Modulation

- Avoid iron supplementation unless deficiency recurs.
- Limit red meat ( $< 3\times$  per week).
- Include polyphenol-rich foods (green tea, cocoa, berries).
- Curcumin (if tolerated) to reduce ferritin and inflammation.

### 3. Constipation Relief

- **Soluble fibre:** ground flaxseed, chia, psyllium.
- **Prebiotics:** asparagus, leeks, oats, green banana resistant starch.
- **Magnesium citrate/glycinate** before bed.
- **Aloe vera inner leaf juice** or gentle aperients short-term.
- Regular movement + hydration with electrolytes.

### 4. Nutrient Repletion

- **Zinc, vitamin C, B<sub>6</sub>, B<sub>12</sub>, folate, EFAs** to support neutrophil and basophil function and protein synthesis.
- **Antioxidants:** vitamins C and E, NAC/glutathione precursors.

## Monitoring Plan

Parameter	Frequency	Goal
Ferritin, Iron, Transferrin	Every 3 months	< 150 $\mu\text{g/L}$
LFTs (ALT, AST, GGT, Bilirubin)	Every 6 months	Track hepatic response
CBC + nutrients (B <sub>12</sub> , Folate, Zinc)	Every 6–12 months	Optimise macrocytic indices
Bowel regularity	Ongoing	Daily soft, formed motion

## Overall Summary

The notes reflect a **mild hepatic storage pattern** with **nutrient insufficiency**, **protein under-synthesis**, and **constipation-related recirculation**.

Your current plan of **herbal liver support, cruciferous vegetables, hydration, and bowel regulation** is clinically sound.

Key adjuncts to emphasise:

- Regular meals → avoid fasting (reduces bilirubin spikes).
- B-complex and zinc supplementation → correct low neutrophils/basophils.
- Ongoing monitoring → ensure ferritin trends down and bilirubin stabilises.