

PROTON PUMP INHIBITORS [PPI] AND KIDNEY

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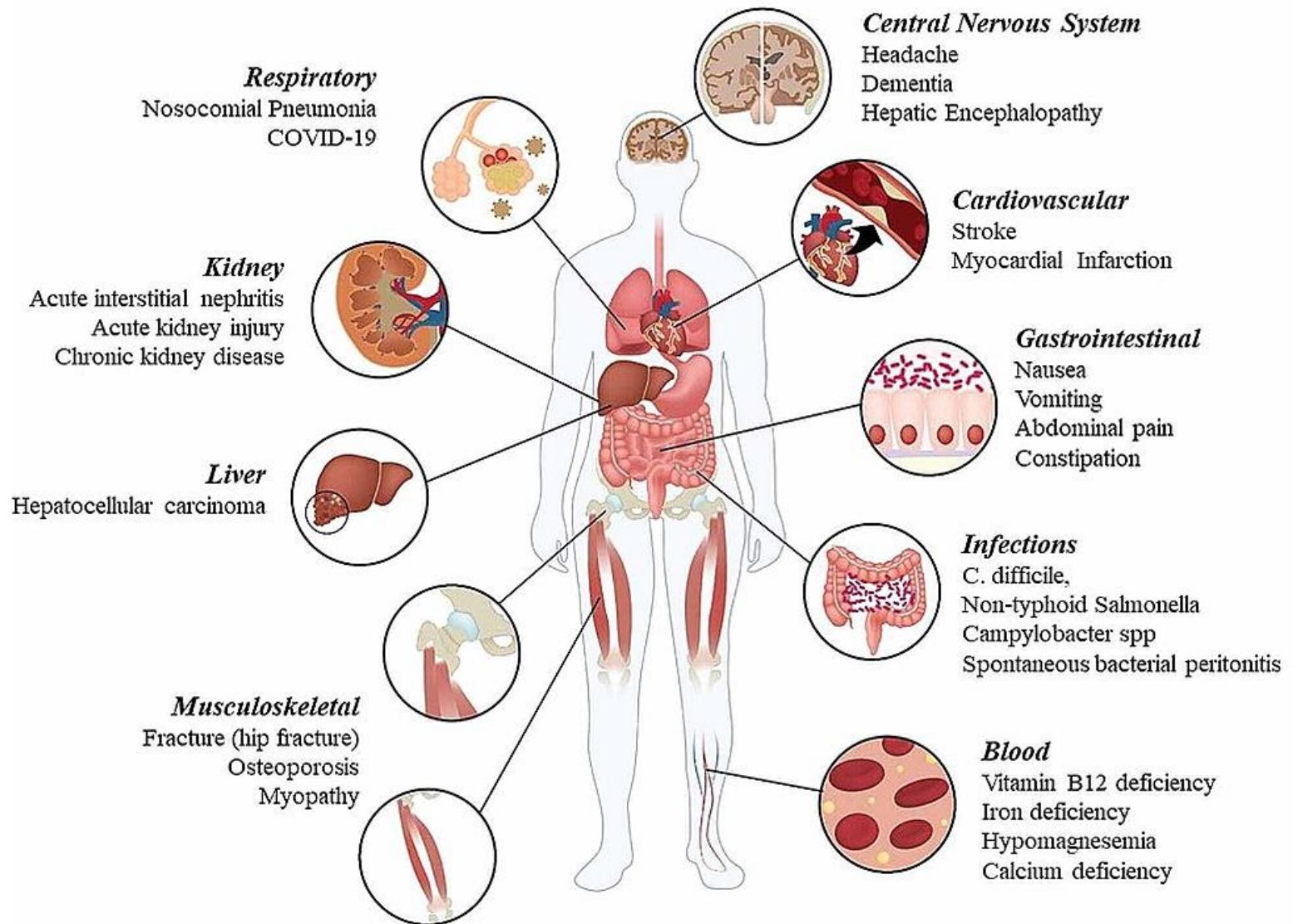
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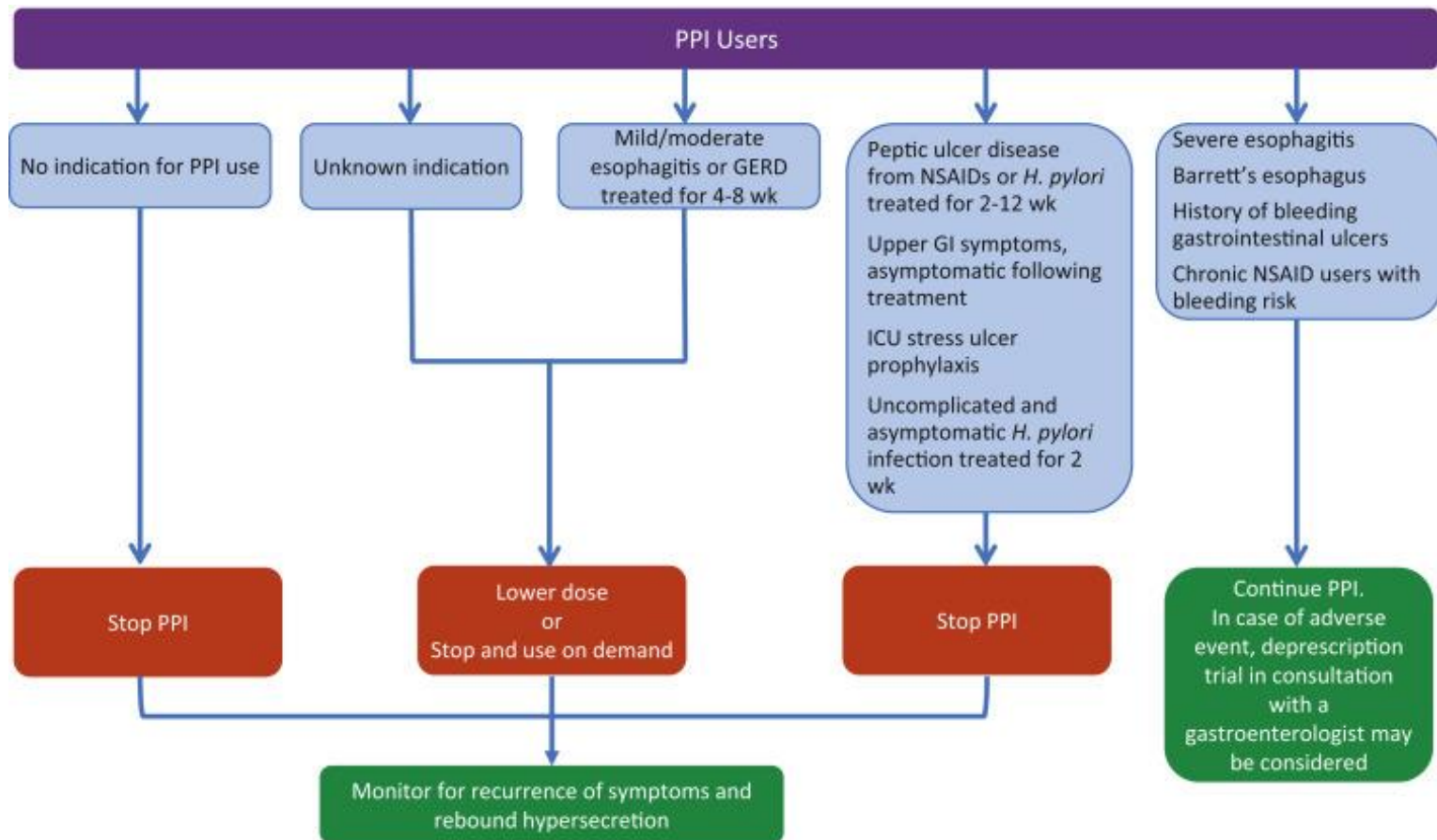
INTRODUCTION

- PPI use is associated with increased risk for hypomagnesemia, AKI, AIN, incident CKD, CKD progression.
- Acute interstitial nephritis (AIN) is the most well-documented PPI-associated kidney injury.
- CKD mechanism:- Undiagnosed/recurrent AIN leading to fibrosis , altered magnesium and calcium absorption contributing to renal injury and potential effects on gut microbiota and inflammation.
- Risk factors :- long term use , high dose of PPI , elderly and patients with renal disease.

ADVERSE EFFECTS ASSOCIATED WITH PROTON PUMP INHIBITORS



DEPRESCRIPTION PROTOCOL FOR PPI



TREATMENT

- **Deprescribe PPI** in suspected case of kidney involvement due to PPI and when not indicated.
- Use **short course** of PPI when prescribed for mild symptomatic dyspepsia.
- **H2 blockers** can be considered as an alternative.
- Potassium-Competitive Acid Blockers (**P-CABs**) - **Vonaprazan** , reversibly blocks the H^+/K^+ ATPase (proton pump) in parietal cells, but at the potassium-binding site (unlike PPIs that block the proton-binding site irreversibly).
- **Monitor** patients on PPI for renal involvement.
- **Acid peptic disease** : Lifestyle changes , exercise , diet modification and eating 2 hours before sleep to avoid symptoms and reduce use of PPI.
- **Acute Interstitial Nephritis** – BIOPSY and treat with steroids.