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graph TD
    Start([Serum B12 >145 pmol/L]) -- Yes --> NoInvestigation[No further investigation required]
    Start -- No --> NeuroSymptoms{Neurological symptoms ?}
    
    NeuroSymptoms -- Yes --> HydroxycobalaminIM[Hydroxycobalamin  
1000µg IM  
3x/week for 2 weeks & then every 3 months,  
lifelong]
    NeuroSymptoms -- No --> SerumB12_111{Serum B12 > 111 pmol/L}
    
    SerumB12_111 -- Yes --> AntiIFAB[Anti-intrinsic factor Antibody positive?]
    AntiIFAB -- No --> OtherCauses[Consider other causes of B12 deficiency  
Have you established underlying cause?]
    AntiIFAB -- Yes --> HydroxycobalaminIM
    
    OtherCauses -- No --> LookEvidence[Look for evidence of other causes of macrocytosis +/- anaemia unrelated to B12 deficiency. Exclude liver dysfunction,, folate deficiency, hypothyroidism, haemolysis, myelodysplasia, etc.]
    OtherCauses -- Yes --> ConsiderVitaminB12PO[Consider Vitamin B12 50-100mg PO daily]
    
    LookEvidence --> ConsiderVitaminB12PO
    
    ConsiderVitaminB12PO --> RecheckFBC_B12_3_4[Recheck B12 & FBC after 3-4 months]
    RecheckFBC_B12_3_4 --> IfSerumB12_145_Lower[If Serum B12 <145 pmol/L]
    IfSerumB12_145_Lower --> ReferHaematologist[Refer patient to Consultant Haematologist]
    
    SerumB12_111 -- No --> MacrocytosisAnaemia{Macrocytosis +/- anaemia ?  
If Pancytopenia, then discuss with Consultant Haematologist}
    MacrocytosisAnaemia -- No --> VitaminB12_PO_Daily[Vitamin B12  
50-100 µg PO daily]
    VitaminB12_PO_Daily --> RecheckB12_2_months[Recheck B12 after 2 months]
    RecheckB12_2_months --> SerumB12_145_Higher{Serum B12 >145 pmol L ?}
    SerumB12_145_Higher -- Yes --> ContinueVitaminB12_PO_Daily[Vitamin B12  
50-100 µg PO daily  
Continue dosage]
    ContinueVitaminB12_PO_Daily --> RecheckB12_Every6Months[Recheck B12 levels every 6 months for 1 year. Then check annually for 2-5 years.  
  
Follow the algorithm from the beginning for investigation of any low B12 results]
    SerumB12_145_Higher -- No --> HydroxycobalaminIM
    
    MacrocytosisAnaemia -- Yes --> ManagementBox[If Malabsorption -  
Hydroxycobalamin 1000µg IM 3x/week for 2 weeks and then every 3 months lifelong  
Recheck FBC & B12 after 4weeks.  
  
If Dietary -  
Vit B12 50-100mg PO daily and recheck FBC & B12 after 2 months  
  
If Metformin related -  
Trial of calcium supplements.  
  
If pregnant -  
Discuss with Consultant Haematologist via kinesis]
    ManagementBox --> HydroxycobalaminIM_2Weeks[Hydroxycobalamin  
1000µg IM 3x/week for 2 weeks]
    HydroxycobalaminIM_2Weeks --> RecheckFBC_B12_4_weeks[Recheck FBC & B12 after 4 weeks]
    RecheckFBC_B12_4_weeks --> IfSerumB12_145_Lower
  
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Protocol based on:  
Devalia V, Hamilton MS and Molloy AM (2014). Guidelines for the diagnosis and treatment of cobalamin and folate disorders. *British Journal of Haematology* 166(4), pp.496-513