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| **Statement** |
| **Drug levels and loss of response** |
| Loss of response (LOR) to maintenance TNF antagonist therapy is associated with low or undetectable serum drug concentration in approx. 70% of cases |
| In CD, LOR has been associated with low or undetectable serum drug concentrations. |
| In UC, LOR has been associated with low or undetectable serum drug concentrations. |
| **Drug clearance** |
| Accelerated drug clearance can be caused by an immunogenic reaction with the formation of anti-drug antibodies, which can be transient or persistent. The immunogenic reaction may be linked to concomitant immunosuppressive treatment. |
| Accelerated drug clearance can be caused by non-immune mediated mechanism and may be linked to burden of disease, body weight and male gender. |
| **Time-point for drug level measurement** |
| Optimal time-point for drug level measurement is just before next infusion for iv drugs (ifx, vedo) |
| Optimal timepoint for drug level measurement (sc durgs, such as adalimumab) is any time |
| Optimal timepoint for golimumab is unclear |
| Optimal trough levels for Infliximab are 3ug/ml ≤ TL ≤ 7 ug/ml |
| Optimal trough levels for Adalimumab are 8ug/ml ≤ TL ≤ 12 ug/ml |
| Optimal trough levels for Certolizumab Pegol are CD/UC: 10 ug/ml ≤ TL ≤ 12 ug/ml |
| **Anti-Drug-Antibodies** |
| High anti-drug-antibodies are associated with adverse events (infusion reaction, injection reactions), loss of response, mucosal healing, CRP levels, and calprotectin levels |
| Infliximab: according to cut-offs defined by the test used |
| Adalimumab: according to cut-offs defined by the test used |
| Certolizumab Pegol: according to cut-offs defined by the test used |
| Golimumab: according to cut-offs defined by the test used |
| Vedolizumab: no commercial test available so far |
| **Definition of loss of response** |
| Loss of response is defined by symptoms, Calprotectin > 50 ug/mg, Drug serum trough levels, Anti-drug antibodies, Sonography, Endoscopy, MRI |
| **Therapeutic algorithm** |
| Interval shortening: for patients relapsing prior to next drug administration with sub-therapeutic trough levels and absent/low ADA titers |
| Dose intensification: for patients with slow onset of action after drug administration with sub-therapeutic trough levels and absent/low ADA titers |
| Add IMM: for patients with sub-therapeutic trough levels and high ADA titers. IF IMM is already present, optimize/switch IMM or add corticosteroid |
| Switch in class: for patients with sub-therapeutic trough levels and high ADA titers |
| Switch out of class: for patients with therapeutic drug trough levels in presences or absence of ADAs |

**Supplementary Table 1:** Statements used in the Delphi-type process