Management of surgery, dental care, burns, or trauma

Evidence-based Medicine | Official Recommendations | Expert opinion

Surgery in a patient with RA treated with abatacept may, in theory, lead to infectious complications and/or delayed healing. Nevertheless, these risks have not been evaluated in detail in published studies, and no clear recommendations are made in the European Summary of Product Characteristics (20). Therefore, the advice given here is based on the opinion of experts, who considered, among other factors, the risk of infection associated with the surgical procedure and the various biotherapy situations evaluated previously (7, 74).

Available data

- **Pharmacokinetic properties**

  The mean terminal half-life of abatacept in a dose of 10 mg/kg is 13.1 days, with a range of 8 to 25 days.

- **Published cases**

  No information is available about patients with RA who underwent surgery after abatacept therapy.

- **Management in the event of surgery**

  Based on the mechanisms of action of abatacept, the safety data reported in the literature, and the specific characteristics of RA patients (who are usually taking other medications), the two main concerns are
  - Intraoperative or postoperative infection
  - Delayed healing. To date, no information is available regarding potential delays in healing in abatacept-treated patients.

Recommendations of Rheumatology Societies

No recommendations have been issued regarding surgery or dental care in patients receiving abatacept therapy.

Clinical situations

- **Time from the last abatacept infusion to scheduled surgery**

The interval should be determined on a case-by-case basis according to the factors listed below.

- Type of the surgical procedure (because of differential risk of infection across procedures) “sterile environment” (e.g., cataract surgery), “septic environment” (e.g., sigmoiditis), or “environment at risk for sepsis” (e.g., joint replacement surgery)
- Patient-related factors: history of infection, joint prostheses, diabetes mellitus, concomitant corticosteroid therapy …
- Severity of the joint disease and degree of control achieved by treatment

- **Two main clinical situations may arise in abatacept-treated patients.**
  - *The treatment response is inadequate:* when the joint disease remains uncontrolled, switching to another treatment is usually required, and the surgical procedure must usually be postponed.
  - *The joint disease is well controlled:* the 5 x half-life rule yields a wide range, of 40 to 125 days. No routinely available method is available for determining the value in the individual patient. Therefore, given the elimination half-life and the absence of available clinical (pharmacokinetic) data, caution suggests that a 2-month period from the last abatacept infusion to surgery may be adequate. This waiting period should be modulated based on (1) the risk of infection related to the surgical procedure (low in sterile environments [e.g., cataract surgery], high for procedures carrying a risk of sepsis); (2) patient-related factors influencing the infection risk in the individual patient; and (3) the severity of the RA and degree of disease control under treatment.
- **Emergent surgery**

For patients who require immediate surgery, the experts suggest the following recommendations:

- Consider prophylactic antimicrobial therapy if the procedure carries a high risk of infection (e.g., peritonitis)
- Monitor the patient closely during the postoperative period
- Do not re-treat with abatacept until complete healing is achieved and any antibiotics are discontinued, in the absence of infection. An abatacept loading dose is not necessary after surgery

- **Dental care**

A few cases of dental infection occurred during the abatacept clinical studies (20).

In patients with periodontal disease, obtaining advice from a stomatologist before abatacept therapy initiation may deserve consideration (75).

Regular oral hygiene and visits to the dentist are recommended. Patients with oral or dental health problems should receive appropriate treatment before starting abatacept therapy:

- Routine dental care (cavities, scaling): Prophylactic antibiotic therapy can be suggested.
- Dental procedures associated with a risk of infection (extraction, apical granuloma, abscess…): The abatacept infusion should be postponed and prophylactic antibiotic therapy given (76).
- Implants: No recommendations have been issued, but there is no contraindication to dental implants during abatacept therapy, provided the alveolar ridge is adequate and the risk of infection is not unreasonably high.

- **Burns and trauma**

1. In patients with severe and extensive burns, given the potential risk of infection, abatacept therapy should be discontinued until healing is achieved
2. In patients with fractures, there is no recommendation to discontinue abatacept therapy, except if surgery is needed (closed or compound fracture).
3. In the event of severe trauma, particularly with breaks in the skin, transient discontinuation of abatacept therapy can be suggested.