Don't be an autoimmune autopilot!

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Immune-mediated diseases occur due to an overactive immune system which attacks a specific target, such as the red blood cells, platelets or the joint tissue. They have either a primary (idiopathic) or secondary (infection, neoplasia, medication) cause. Cocker Spaniels and Springer Spaniels are over-represented as are middle-aged females (entire and spayed).

The conditions range from systemic disease to organ specific. Patients may present with varying symptoms depending on the type and extent of the disease. The aim of treatment is to halt ongoing damage by the immune system and to provide supportive care.

We will cover:

- Immune-mediated haemolytic anaemia (IMHA)
- Immune-mediated thrombocytopenia (IMTP)
- Immune-mediated polyarthritis (IMPA).

Treatment differs depending on the disease but will involve:

- Fluid therapy — correction and maintenance of fluid and electrolyte imbalances
- Blood product transfusion — whole blood, packed red blood cells or human immunoglobulin
- Immunosuppressive therapy — occasionally multiple medications may be required as they may offer different mechanisms of action
- Analgesia — a multimodal approach may be required. Non-steroidal anti-inflammatory drugs should be avoided due to the use of steroids
- Anti-emetics — nausea and vomiting will lead to a patient not wanting to eat and therefore unlikely to meet its resting energy requirement (RER)
- Laboratory samples — biochemistry and haematology, fresh blood smears, in saline agglutination test (ISAT), tick-borne diseases, Coombes, tissue/muscle biopsy, cytology and culture of joint fluid
- Diagnostic imaging — radiography, ultrasonography, computed tomography (CT) or magnetic resonance imaging (MRI). CT or MRI may require contrast to be given. Ultrasonography can facilitate sample collection
- Nutritional support — with the aim of meeting the patient's RER. Appetite stimulants and/or feeding tubes may be required
- A jugular catheter can be placed and facilitates multiple blood samples and the administration of fluids, medications and total parenteral nutrition. Jugular catheters should be avoided for IMTP patients.

If hospitalization is required, we need to remember to look after the patient's needs and not just treat the disease.

- Padded bedding in a warm stress-free environment with any soiling removed immediately
- Time to rest and sleep, with the lights turned down
- Recumbency should be changed every 4 hours
- Physiotherapy for recumbent patients if tolerated
- Water should be freely available, fresh and easily accessible
- Frequent toileting opportunities with possible placement of a urinary catheter for recumbent patients. The enables urine output to be monitored and hygiene
- Temperature, pulse and respiration rate, mucous membrane colour and capillary refill time at least twice a day
- Pain scores every 4 hours or as required
- Intravenous catheters and feeding tubes should be redressed twice a day
- Monitor hydration status and monitor for volume overload
- Moistening the gums of the patient.

KEY LEARNING OBJECTIVES

- To understand the meaning of 'immune mediated'
- To be able to understand treatment requirements of a patient with an immune-mediated disease
- Learn how to meet the holistic needs of the patient

MULTIPLE CHOICE QUESTIONS

1. When performing an in saline agglutination test, a positive result indicates which disease?
(A) Immune-mediated haemolytic anaemia
(B) Immune-mediated thrombocytopenia
(C) Immune-mediated polyarthritis
(D) Myasthenia gravis
2. Patients with Immune-mediated polyarthritis may present with which clinical signs?
(A) Pyrexia
(B) Reluctance to walk
(C) Neutrophilic inflammation of multiple joints
(D) All of the above
3. Primary immune-mediated thrombocytopenia develops as a result of which of the following?
(A) Antibodies binding to the surface of the platelets resulting in their destruction
(B) Antibodies binding to the surface of the red blood cells resulting in their destruction
(C) Neoplasia
(D) Antibiotics such as sulphonamides and cephalosporins