

Anaesthesia recommendations for **Multiple myeloma**

Disease name: Multiple myeloma

ICD 10: C90.0

Synonyms: Kahler's disease, Medullary plasmacytoma, Myelomatosis, Plasma cell myeloma

Disease summary: Multiple myeloma (MM) is an incurable haematological disease previously associated with poor prognosis and survival rates. MM accounts for 15% of all haematologic malignancies and 2% of all malignancies. In Europe, it affects about 4 per 100,000 individuals each year. Epidemiological cancer registries are institutions for the collection, storage, processing, analysis and interpretation of data on the incidence and prevalence of cancers within defined registration areas. The data from the cancer registries also forms an indispensable basis for further studies into the assessment of early detection measures and population-based care of tumour patient. MM - malignant lymphoproliferative disease characterized by bone marrow infiltration by plasma cells, the presence of monoclonal immunoglobulin in serum and/or urine, and osteolytic lesions of bones. MM refers to peripheral B-cell lymphoid tumours.

Medicine is in progress



Perhaps new knowledge

Every patient is unique

Perhaps the diagnosis is wrong



Find more information on the disease, its centres of reference and patient organisations on Orphanet: www.orpha.net

Typical surgery

Vertebroplasty, transpedicular fixation for the treatment of complex vertebral fractures.

Surgery for non-myeloma related conditions, (e.g. hernia repair, appendectomy, cholecystectomy) are also not uncommonly performed in MM.

Type of anaesthesia

General anaesthesia can be done as total intravenous or balanced anaesthesia using propofol or volatile anaesthetics. All intravenous and volatile anaesthetics can be used.

Regional or neuraxial anaesthesia is described too in these patients, but there is an increased risk of spinal haematomas.

Necessary additional pre-operative testing (beside standard care)

Renal failure (RF) is detected in 20-30% of patients at the onset of MM and in 50% of patients during its progression. Therefore, kidney function must be tested.

In advanced stages of the disease, patients can develop severe cardiac failure. In these cases, an echocardiography can be faithful.

It is necessary to assess the status of haemostasis by the normal global tests. Additional further examination by using thrombelastography is recommended.

In cases of high blood viscosity syndrome (increased blood pressure, visual impairment, neurological disorders) and paraproteinemic coma, an increase in the total protein above 120 g/l requires plasmapheresis with replacement with crystalloids and albumin solutions.

Particular preparation for airway management

There are no reports about difficult airway in these patients. But bone destruction in the cervical spine can lead to impaired reclination.

Particular preparation for transfusion or administration of blood products

Patients are at risk for severe anaemia. Therefore be prepared for red cell transfusion.

Patients with multiple myeloma can show hypercalcemia, which is the result of bone destruction.

Particular preparation for anticoagulation

Patients with multiple myeloma (MM) are at increased risk of venous thromboembolism. Therefore, adequate laboratory control of haemostasis and subsequent adjustments of anticoagulant therapy are necessary. Nearly 50% of the primary patients with MM were ascertained to be more prone to thrombosis.

Particular precautions for positioning, transportation and mobilisation

Patients often experience pathological fractures. Deformities of the thoracolumbar spine are very common. Therefore, positioning must be done very carefully.

Interactions of chronic disease and anaesthesia medications

When using bortezomib, peripheral polyneuropathy can be observed.

Given the high incidence of renal failure, the use of NSAIDs should be considered very carefully.

Anaesthetic procedure

There is no special recommendation for any anaesthesia procedure.

Avoid any medication with nephrotoxic effects, such as NSAIDs or contrast medium.

The dose of propofol may be reduced in these patients.

All volatile anaesthetics can be used.

Due to bone impairment, there may be a higher risk of spinal haematoma when performing spinal or epidural anaesthesia.

Particular or additional monitoring

There is no need for special additional monitoring. Due to electrolyte imbalances, patients can show cardiac arrhythmias.

Possible complications

Patients are at high risk of venous thrombosis (thromboembolism), renal insufficiency, and postoperative infectious complications.

Post-operative care

The degree of postoperative monitoring is dependent on the surgical procedure and preoperative condition of the patient.

Antimicrobial therapy of infectious complications is carried out according to general rules under the control of crops. If there is a sign of postoperative infection, a broad spectrum antibiotic therapy should be initiated.

Disease-related acute problems and effect on anaesthesia and recovery

Not reported.

Ambulatory anaesthesia

Ambulatory anaesthesia should be avoided in patients with MM because of the high risk of bleeding or thrombosis and infections.

Obstetrical anaesthesia

Mainly elderly people are affected by the disease. But there is one case report about an uneventful epidural anaesthesia for caesarean section.

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