

Febrile Neutropenia



Although pyrexia caused by neutropenia is relatively uncommon in cancer treatment patients, an understanding of the level and extent of treatment needed for this condition would help in case management. In this paper, 70 hospitalized febrile and neutropenic dogs (neutrophil count <2500 cells/ μ L, rectal temperature >102.5°F) with various cancers and in different stages of treatment were retrospectively selected. Body temperature, neutrophil count, adverse clinical signs, infections, prophylactic antibiotic use, and other variables were noted.

Progressive clinical signs and neutropenia were linked to length of hospital stay but not mortality. Tachycardia (>120 bpm) at admission, decreasing neutrophil count after admission, and complicating medical issues were both associated with a prolonged hospital stay. Hypotension (systolic bp <90 mmHg or MAP <60 mmHg) was a significant risk factor for dying in-hospital.

The authors recommend future studies with greater numbers to assess what level of hospitalized care is ultimately necessary rather than giving all patients the same degree of intensive care.

Global Commentary

Febrile neutropenia can be life-threatening. Further work may help identify a subgroup that could be managed less intensively. It is interesting that the most common causes of neutropenia in this study were doxorubicin and vincristine. Both are associated with increased toxicity in dogs (particularly herding breeds) that have a mutation in the *abcb1* gene. Clinicians can now test for presence of such mutations and chemotherapy doses adjusted accordingly.^{1,2}—*Sue Murphy, BVMS&S, MSc (Clin Onc), DipECVIM-CA (Onc), MRCVS*

References

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2. Gramer I, Leidolf R, Döring B, et al. Breed distribution of the nt230(del4) MDR1 mutation in dogs. *Vet J*. 2011;189(1):67-71.

Source

Britton BM, Kelleher ME, Gregor TP, Sorenmo KU. Evaluation of factors associated with prolonged hospital stay and outcome of febrile neutropenic patients receiving chemotherapy: 70 cases (1997-2010). *Vet Comp Oncol*. 2014;12(4):266-276.

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