MELoxicam sustained release injection site reactions in male and female mice

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Why are we interested in Meloxicam Sustained Release (MSR)?

- Meloxicam (an NSAID) provides up to 12 hours of analgesia1,3
- MSR provides up to 72 hours of analgesia
  - Reduce animal handling to minimise stress1,3
  - Efficacy established, but full MSR formulation not tested for safety
  - Some treated animals developed skin lesions, granulomas, or open draining tracts
- Reactions can lead to:
  - Interference with study objectives
  - Premature loss of study animals
  - Welfare concerns

Hypotheses

Treatment of mice with injectable meloxicam sustained release results in:
- Greater lesion incidence and severity than control treatments
- Strain differences in reactions
- Sex differences in reactions

Materials and Methods

Animals
- 9 weeks old, age and sex-matched; 36 Balb/cJ, 36 C57BL/6J, 36 ICR(CD1)
- Ad libitum rodent chow and water
- Communal housing in a temperature and humidity controlled room

Treatments
- Single subcutaneous injection of MSR (4 mg/kg), Meloxicam (4 mg/kg), or saline (MSR volume)

Data Collection
- Erythema and mass scores measured daily by treatment blinded researcher
- Animals were submitted for necropsy at day 7 or 14, and histology interpreted by a Veterinary Pathologist

Results

- Observations of reactions, reaction resolution, time/group interactions
- Histological interpretations

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References

Discussion

- Observations of reactions, reaction resolution, time/group interactions
- Histological interpretations