### Poster Title:
**Gadolinium Deposition and Dermal Cellularity Associated with Gadofosveset Administration in an Animal Model**

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**Modality:** MR

**Organ System:** GU

**Purpose:** We aimed to determine the amount of gadolinium deposition and dermal cellularity after the administration of multiple GBCAs.

**Methods Used:**
Approval was obtained from IACUC Institutional Animal Care and Use Committee. Three groups of four rats were injected with 1.5 mmol per kilogram of GBCA for five consecutive days. The first group received gadodiamide (Omniscan; GE), the second gadopentetate dimeglumine (Magnevist; Bayer), and the third gadofosveset. Skin biopsies were obtained 1 and 4 weeks after injection. Nuclei cell counts and CD34 staining were performed. Gadolinium deposition was analyzed using ICP-MS.

**Results of Abstract:**
Dermal gadolinium levels were highest in rats treated with gadodiamide at weeks 1 and 4 (at 1 week: gadodiamide vs gadopentetate p=0.024; gadodiamide vs gadofosveset p=0.016; at 4 weeks p<0.001 for comparisons). At week 1, all groups had increased dermal cellularity in comparison to control animals (p < 0.001), and there was an increase in superficial dermal cellularity with gadodiamide at week 1 in comparison to the other two treatment groups (gadodiamide 174 cells / hpf, gadopentetate 143 and gadofosveset 140; p=0.006 and 0.003). There was no significant difference in deep dermal cellularity between groups at week 1, nor was there a significant difference in dermal cellularity at week 4 between groups.

**Discussion:**
In our study, rats treated with gadofosveset had decrease dermal cellularity and deposition of gadolinium in comparison to those treated with gadodiamide. This findings are reassuring in regards to the relative safety of gadofosveset, although the study

**Scientific and/or Clinical Significance:**
This abstract provides important safety information in regards to the administration of gadofosveset.

**Relationship to existing work:**
To date there are no animal model data in regards to dermal effects of gadofosveset.