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## Comparison of experimental mouse models of colorectal peritoneal carcinomatosis

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### **INTRODUCTION :**

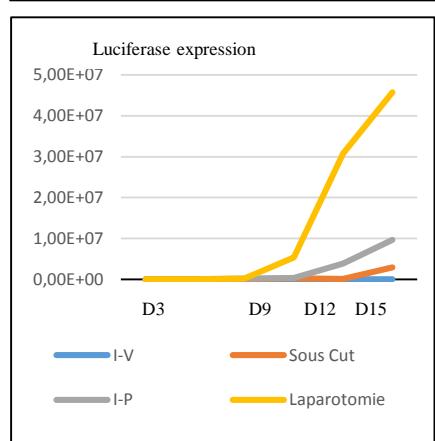
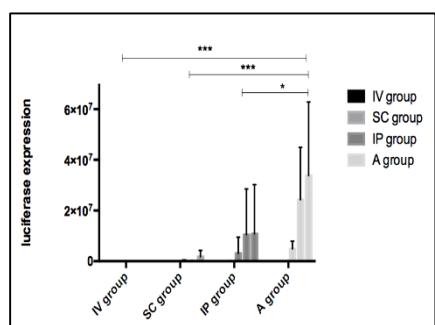
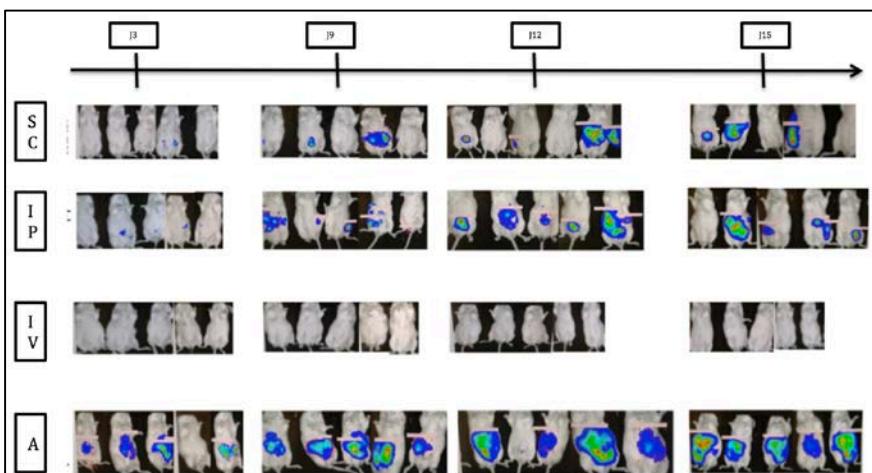
- Animal cancer models play an important role to study the development and progression of peritoneal carcinomatosis and to assess new treatments
- **The aim of this study was to compare 4 mouse models of colorectal peritoneal carcinomatosis (PC) in order to obtain whether a limited or extensive peritoneal carcinomatosis.**

### **MATERIELS / METHODS :**

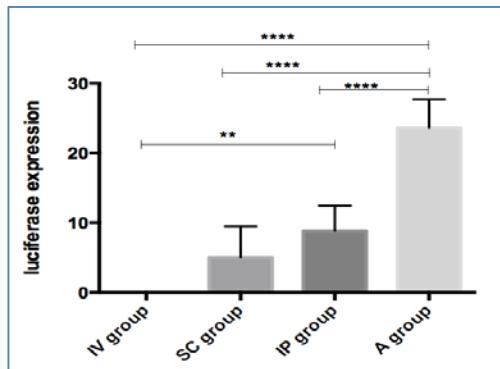
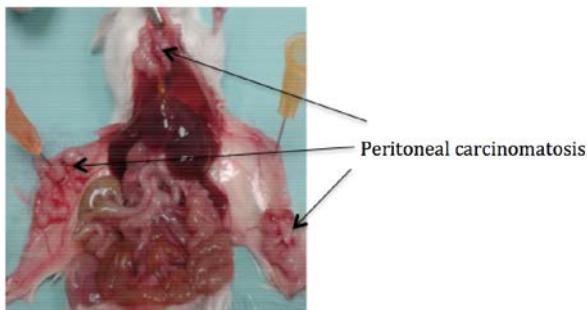
- **Cancer cell lines** : Colon carcinoma cell line / **Luciferase-expressing murine CT26 cells .**
- **Animal** : Female BalbC mice, 8- 12 weeks old at the time of the experiments, were obtained from Charles River Laboratory France.
- **Experience** : Animals were randomly assigned to 1 of 4 groups, consisting of 10 animals each: **group 1: Intraperitoneal (IP)** injection, **group 2: Intravenous (IV)** injection, **group 3: Subcutaneous (SC)** injection, **group 4** : Intraperitoneal injection after peritoneum **aggression (A)** using a sterile cotton swab. All groups had a control group using NaCl.
- **Tumor growth** : Luciferase activity was monitored by bioluminescence imaging for 15 days (D3, D9, D12, D15).
- After 15 days, all mice were sacrificed, a complete midline laparotomy was performed and the peritoneal carcinomatosis index (PCI) score was calculated.

## RESULTS

- Tumor growth by monitoring luciferase activity:



- IPC Score



- Nodule localisations:

Murine PC is preferably located on parietal peritoneum in A group when, on the contrary, it is located on mesentery and visceral peritoneum in IP group.

## CONCLUSION:

- IP and A models should be used to obtain a **relevant peritoneal carcinomatosis (PC)**.
- IP injection is suitable to obtain a **limited PC**.
- It is nevertheless necessary to associate an aggression of the peritoneum to obtain an **extensive PC**.