



HAL
open science

Comparison of experimental mouse models of colorectal peritoneal carcinomatosis

A Taibi, Sylvia M. Bardet, M-L Perrin, C. Yardin, S. Durand Fontanier

► **To cite this version:**

A Taibi, Sylvia M. Bardet, M-L Perrin, C. Yardin, S. Durand Fontanier. Comparison of experimental mouse models of colorectal peritoneal carcinomatosis. PSOGI, 2018, PARIS, France. hal-03031572

HAL Id: hal-03031572

<https://hal.science/hal-03031572>

Submitted on 30 Nov 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Comparison of experimental mouse models of colorectal peritoneal carcinomatosis

TAIBI A ¹⁻², BARDET S-M ², PERRIN M-L ², YARDIN C ²⁻³, DURAND FONTANIER S ¹⁻².

¹ Service de chirurgie digestive, générale et endocrinienne, CHU de Limoges et université de Limoges, France

² Équipe BIOEM, XLIM, UMR CNRS 7252, Limoges, France

³ Service d'histologie, cytogénétique, biologie cellulaire et de la reproduction, CHU de Limoges, France

abdelkader.taibi@hotmail.fr

INTRODUCTION :

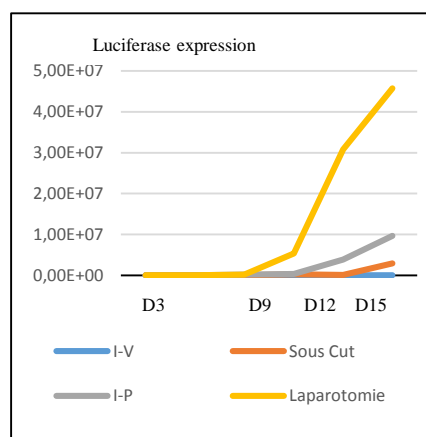
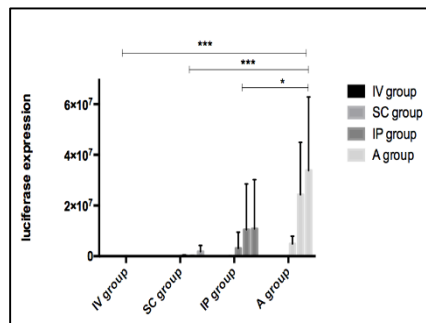
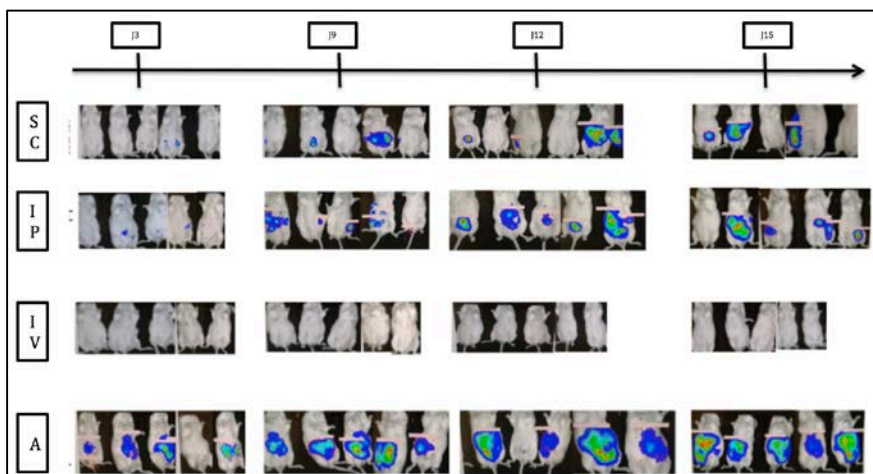
- Animal cancer models play an important role to study the development and progression of peritoneal carcinomatosis and to assess new treatments
- **The aim of this study was to compare 4 mouse models of colorectal peritoneal carcinomatosis (PC) in order to obtain whether a limited or extensive peritoneal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

MATERIELS / METHODS :

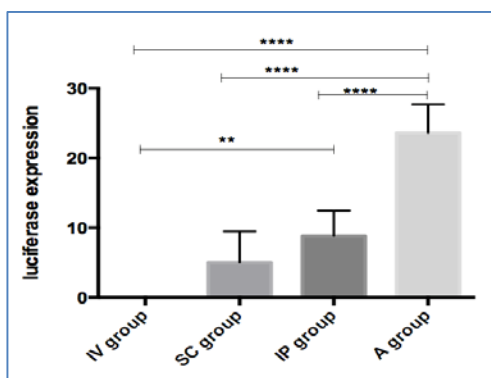
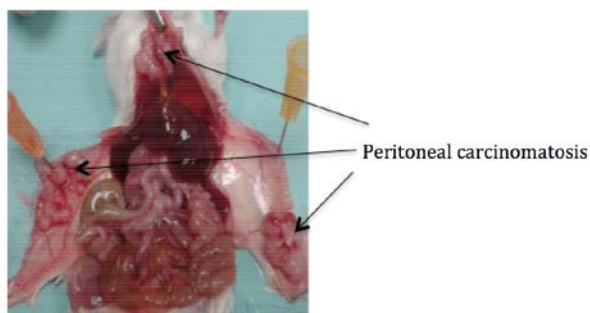
- Cancer cell lines : Colon carcinoma cell line / **Luciferase-expressing murine CT26 cells** .
- Animal : Female BalbC mice, 8- 12 weeks old at the time of the experiments, were obtained from Charles River Laboratory France.
- Experience : Animals were randomly assigned to 1 of 4 groups, consisting 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**.