Reduction of carcinomatosis risk using icodextrin as a carrier solution of intraperitoneal chemotherapy

(BIO15407)

Product factsheet

Preclinical

> ## Product:
>
> - Icodextrin 4% (ICDX) in combination with a chemotherapeutic agent such as oxaliplatin or 5-FU.
>
> ## Technology:
>
> - Intraperitoneal prophylactic chemotherapy
>
> ## Rational / POC:
>
> - There is no standard treatment in patients with high risk of peritoneal carcinomatosis (PC)
> - Coadministration of ICDX with oxiplatin strongly reduces PC in a murine model mimicking surgical situation.
>
> ## Patent and publication:
>
> - METHODS AND PHARMACEUTICAL COMPOSITIONS FOR THE PROPHYLACTIC TREATMANT OF PERITONEAL CARCINOMATOSIS PCT/EP2017/051802
>
> - *Reduction of carcinomatosis risk using icodextrin as a carrier solution of intraperitoneal oxaliplatin chemotherapy* Jouvin I, Najah H, Pimpie C, Canet Jourdan C, Kaci R, Mirshahi M, Eveno C and Pocard M *Eur J Su;rg Oncol. 2017 Jun;43(6):1088-1094*

Proof of concept

Preclinical

ICDX associated with intraperitoneal chemotherapy strongly reduces peritoneal carcinomatosis

A murine model of induced PC was created through an intraperitoneal injection (IP) of 5×10^3 CT26 LUC cells. Intraperitoneal injection of cell mimic the spelling of tumour cells that can happens during a surgical procedure. Different treatments were injected in addition to the tumour cells, and five different groups of mice were therefore created:
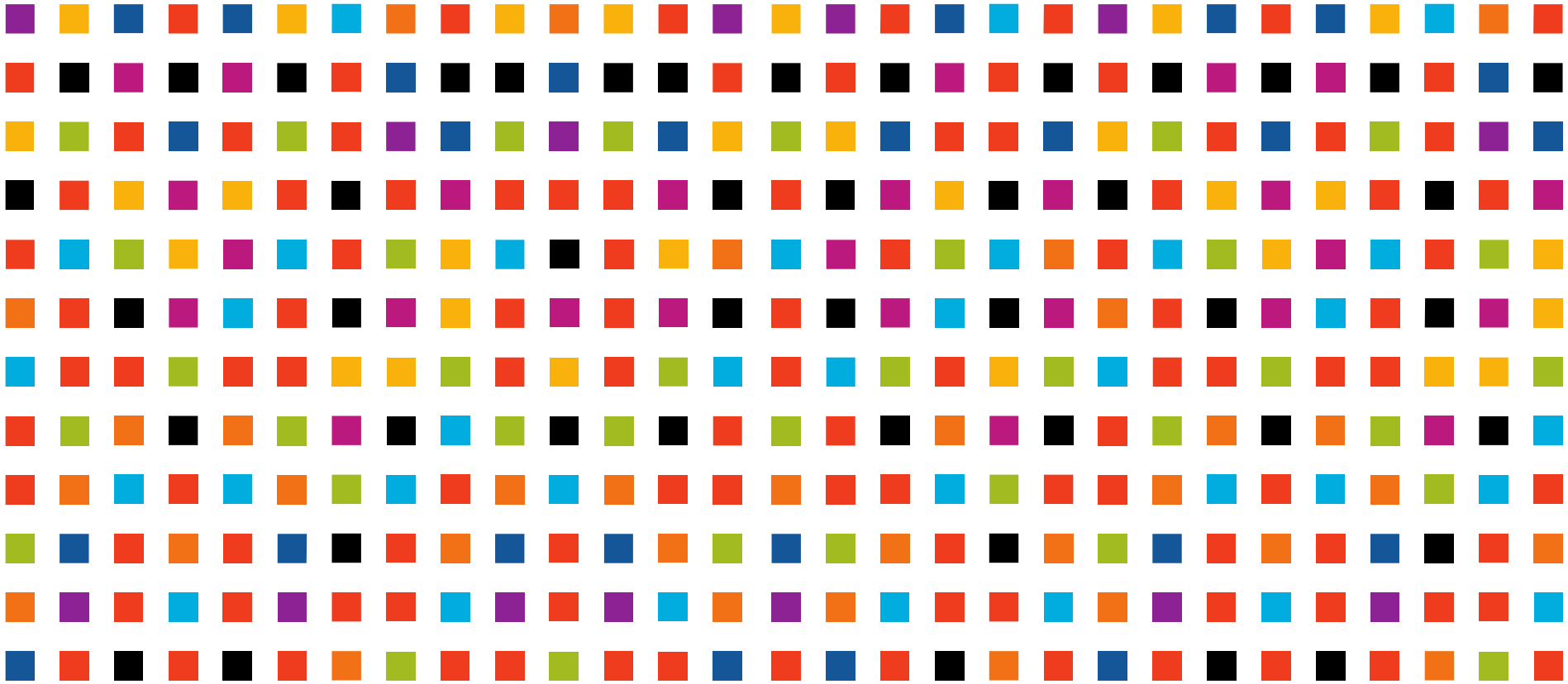
(i) Control group: CT26 LUC
(ii) ICDX group: CT26 LUC and ICDX (20 mL/kg)
(iii) Chemo group: CT26 LUC and Chemotherapy (Oxali-platine 6 mg/kg and 5 fluoro-uracil 30 mg/kg)
(iv) ICDX Chemo group: CT26 LUC and ICDX (20 mL/kg) and Chemotherapy (Oxaliplatine 6 mg/kg and 5 fluoro-uracil 30 mg/kg)
(v) Toxicity group: ICDX (20 mL/kg)

At day 15, the mice were killed by cervical dislocation. A post mortem examination was performed through a xipho-pubic laparotomy. Visceral and parietal peritoneum was completely and meticulously analysed to detect PC nodules and the peritoneal carcinomatosis index (PCI) for the rodent was calculated. Several samples were taken for histological analysis.
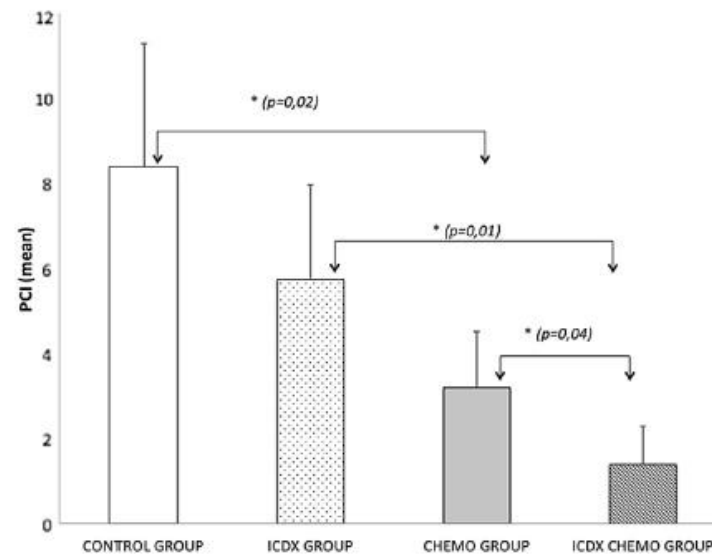
PCI in the different groups.

	Control group (n = 5)	ICDX group (n = 4)	Chemo group (n = 5)	ICDX Chemo group (n = 5)
Mouse 1	11	5	5	3
Mouse 2	7	9	4	1
Mouse 3	4	5	2	1
Mouse 4	10	4	3	1
Mouse 5	10	x	2	1
Mean PCI (SD)	8.4 (2.9)	5.75 (2.2)	3.2 (1.3)	1.4 (0.9)

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Anne.cochi@inserm-transfert.fr

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