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How I do Hyperthermic Intraperitoneal Chemotherapy (HIPEC) in ovarian cancer : a 10 steps video ?

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SUMMARY

Hyperthermic intraperitoneal chemotherapy (HIPEC) is a treatment that combining chemotherapy and surgery. This treatment is performed in one go, at the end of the surgery, after performing the usual cytoreduction procedure recommended in ovarian cancer, therefore removing all cancerous lesions visible to the naked eye. The chemotherapy drugs (Cisplatin) are diluted in a saline solution and heated to 42°C for one hour in order to increase its cytotoxic effect on cancerous tissues. They are then introduced into the peritoneal cavity where they circulate before being drained by a pump. In the open HIPEC technique, the procedure ends with the abdominal wall closure.

This surgical technique is part of the therapeutic options in advanced ovarian cancer, it has showed a survival benefit and has been validated by the INCA and HAS in the latest guidelines. According to the clinical studies, the indications for this surgery are a primary debulking surgery and/or interval debulking surgery. Even though this technique is increasingly applied in France, its use remains controversial among practitioners/centers ; its implementation requires coordination and investment from a multidisciplinary team.

The objective of this video is to detail in 10 steps the indication, the implementation and the course of the surgery.

Regarding the HIPEC protocol implemented, it is based on the one of Van Driel et al. published in 2018 in the NEJM. The drug protocol systematically used in our center was the one recommended by the French recommendations, based on the protocol of Van Driel et al, which is the only prospective, randomized, large-scale study : Cisplatin 100 mg/m² distributed at a rate of 50 mg/m² at the beginning of the procedure, 25 mg/m² at 30 min, and 25 mg/m² at 60 min for a total duration of 90 min at 40-41°C as well as hyperhydration and nephroprotection by IV sodium thiosulfate in a bolus of 9 g/m² at the beginning of HIPEC then 12 g/m² over 6 h.

Ref: van Driel WJ, Koole SN, Sonke GS. Hyperthermic intraperitoneal chemotherapy in ovarian cancer. N Engl J Med 2018;378(14):1363-4.