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Cisplatin combined with hyperthermia kills HepG2 cells in intraoperative blood salvage but preserves the function of erythrocytes

Key words: Erythrocytes, HepG2 cells, Intraoperative blood salvage, Cisplatin, Hyperthermia

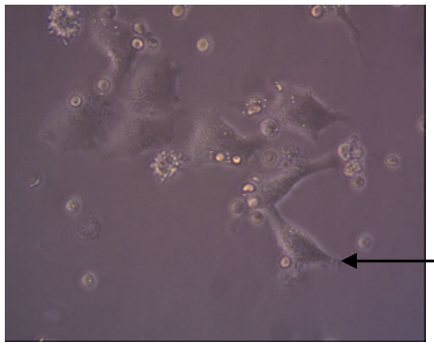
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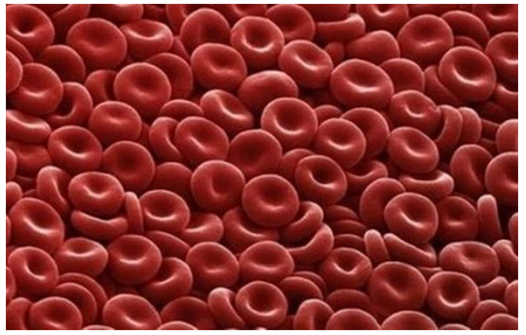
Research Summary

This work mainly focused on the killing effect of cisplatin combined with hyperthermia on HepG2 cells and erythrocytes from IBS *in vitro*:



- **Hyperthermia alone, cisplatin plus hyperthermia**
- **Viability and proliferation in HepG2**
- **Osmotic fragility, oxygen-carrying function and membrane integrity in erythrocytes**



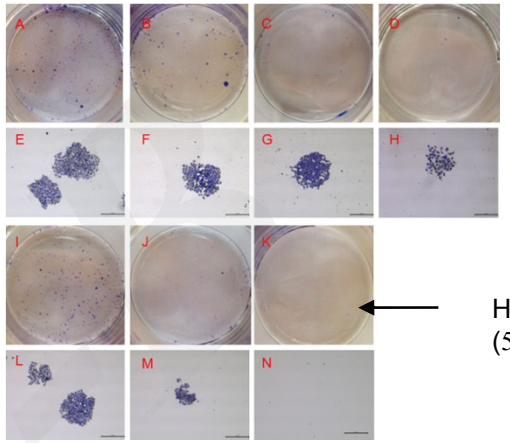


Innovation points

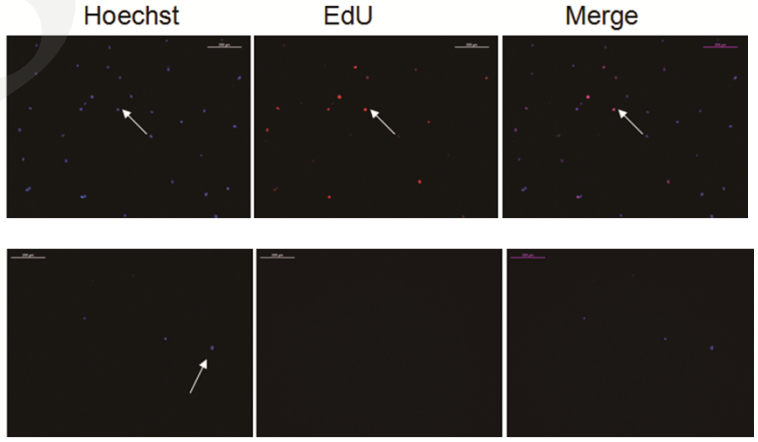
- **Introduction** of the hypothesis that eliminating tumor cells from IBS before reinfusion is safer in cancer surgery.

- **Summary** of the work about pretreatment with cisplatin (50 μg/ml) plus hyperthermia (42 °C) for 60 min effectively eliminated HepG2 cells from IBS but did not significantly affect erythrocytes *in vitro*.

- **Emphasis** of the effective approach to purify IBS before using in cancer surgery.



HT60+DDP
(50 μg/ml)



A: Control **B:** HT60+DDP (50 μg/ml)

Innovation points

A series of comprehensive figures and tables were generated to summarize the effect of cisplatin plus hyperthermia on HepG2cells and erythrocytes.

Figure 1 | Effects of hyperthermia on inhibiting HepG2 cell survival.

Figure 2 and table 2 | Effects of hyperthermia on erythrocytes.

Figure 3 | Effects of cisplatin plus hyperthermia for 60 min on HepG2 cell survival.

Figure 4,5 and table 3 | Effects of cisplatin plus hyperthermia for 60 min on erythrocytes.

Figure 6 | Effects of cisplatin plus hyperthermia for 30 min on HepG2 cell survival.

Figure 7 and table 4 | Effects of cisplatin plus hyperthermia for 30 min on erythrocytes.

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