NICE guidance

Pressurised intraperitoneal aerosol chemotherapy for peritoneal carcinomatosis

Interventional procedures guidance
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www.nice.org.uk/guidance/ipg681

1 Recommendations

1.1 Evidence on the safety of pressurised intraperitoneal aerosol chemotherapy for peritoneal carcinomatosis shows that this procedure can cause serious but well-recognised side effects. Evidence on its efficacy is inadequate in quality. Therefore, this procedure should only be used in the context of research. Find out what only in research means on the NICE website.

1.2 Further research should be in the form of randomised controlled trials comparing pressurised intraperitoneal aerosol chemotherapy with standard care. Studies should report details of patient selection including type of tumour, the chemotherapy drugs used, survival and quality-of-life outcomes.

2 The condition, current treatments and procedure

The condition

2.1 Peritoneal metastases commonly result from the regional spread of gastrointestinal, gynaecological and other malignancies. Peritoneal carcinomatosis is an advanced form of cancer associated with short survival and poor quality of life. It may lead to bowel obstruction, fluid build-up in the peritoneal cavity and pain.

Current treatments

2.2 There is no curative treatment. Current standard treatment uses systemic chemotherapy or surgery for short-term palliation of complications such as bowel obstruction.

The procedure

2.3 Pressurised intraperitoneal aerosol chemotherapy for peritoneal carcinomatosis is a laparoscopic procedure that is usually done using general anaesthesia. The aim is to distribute the drug uniformly to all surfaces of the abdomen and pelvis.

2.4 Trocars are inserted and the abdomen insufflated with carbon dioxide. Peritoneal biopsies or local partial peritonectomy may be done at this time. The chemotherapy is delivered using an aerosol device containing normothermic chemotherapy solution. This device is connected to a high-pressure injector, which is inserted into the abdomen through an access port. For operator safety, the procedure takes place in an operating room with laminar air flow. Once in position, the device is operated remotely. A laparoscopic camera can be used to visualise the treatment. The chemotherapy is kept in the insufflated peritoneum for about 30 minutes. The chemotherapy aerosol is then exsufflated using a closed extraction system. The trocars are removed, and the laparoscopy

completed. The procedure is usually repeated several weeks later. One standard course of treatment comprises 3 procedures, usually given 6 weeks apart, although the timing can vary.

3 Committee considerations

The evidence

3.1 NICE did a rapid review of the published literature on the efficacy and safety of this procedure. This comprised a comprehensive literature search and detailed review of the evidence from 8 sources, which was discussed by the committee. The evidence included 4 systematic reviews, 3 case series and 1 case report. It is presented in table 2 of the interventional procedures overview. Other relevant literature is in the appendix of the overview.

3.2 The specialist advisers and the committee considered the key efficacy outcomes to be: improved quality of life and prolonged survival.

3.3 The specialist advisers and the committee considered the key safety outcomes to be: peritoneal sclerosis, bowel damage and inadvertent leakage of chemotherapy agents into the environment.

3.4 One patient commentary from a patient who had experience of this procedure was received, which was discussed by the committee.

Committee comments

3.5 The committee noted that the intent of the procedure is palliation.

3.6 The committee noted that several different chemotherapy drugs have been used in this procedure and that the toxicity profile and efficacy for each of these may be different.

3.7 There is a potential risk that chemotherapy could be dispersed into the operating theatre environment. The committee were informed that this

risk has been mitigated with robust safety measures.

3.8 The committee noted that the procedure is usually used with intravenous chemotherapy.

3.9 The committee noted that the technology is evolving to include, for example, using electrostatic charge.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.

Accreditation