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Conference abstract

The anatomy of a telehealthcare project with point-of-care testing for monitoring chemotherapy; from concept to adoption

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Abstract

A significant proportion of women with breast cancer develop neutropenia whilst receiving chemotherapy. Consequence they may have their dose delayed or reduced, develop febrile neutropenia and sepsis. Neutropenia is invariably only detected immediately prior to the next dose of chemotherapy, or following emergency admission to hospital, with the aid of a laboratory investigation of white blood cell count (WBC).

Point-of-care testing (POCT) enables such investigations to be performed in the home, by the patient, with communication of results and subsequent advice being achieved through a secure telehealth network between patient and oncology team.

Clinical effectiveness requires demonstration that neutropenia and its consequences are minimised. The evidence requires demonstration that (i) the change in WBC after chemotherapy predicts neutropenia later in the cycle, (ii) the patient can measure WBC reliably, (iii) the clinical intervention following a low WBC minimises the occurrence of adverse events, together with successful trial of the new care pathway.

Successful adoption requires identification of the quality management requirements e.g. training of patients, equipment management etc., together with the necessary clinical process change and resource reallocations (both investment and disinvestment). Experience of innovation in health care suggests that the latter might be the greatest challenge.

Keywords

neutropenia, point-of-care testing, monitoring, clinical effectiveness, innovation