Cost and risk benefit in the management of clinical stage II nonseminomatous testicular tumours

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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
Primary retroperitoneal lymph node dissection (RPLND) (with immediate adjuvant chemotherapy or chemotherapy at relapse) versus primary chemotherapy for treating clinical low volume Stage II nonseminomatous germ cell testis tumours (NSGCT).

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Patients with Stage II nonseminomatous testicular cancer.

Setting
Hospital. The economic study was carried out in Indiana, USA

Dates to which data relate
The effectiveness data were extracted from studies published between 1983 and 1994. The resource use and cost data was based on the experience of the Indiana University and others between 1981 and 1994. 1992 prices were used.

Source of effectiveness data
Effectiveness data were derived from a review of previously completed studies.

Modelling
A model treatment algorithm was constructed comparing the theoretical management of 100 patients by RPLND versus chemotherapy, with follow-up extending to 5 years.

Outcomes assessed in the review
Outcomes assessed were cure rate, relapse rates, morbidity, mortality, fertility, need for post-chemotherapy RPLND, and psychological and sexual dysfunction as measures of quality of life.

Study designs and other criteria for inclusion in the review
Not stated.
Sources searched to identify primary studies
Not stated.

Criteria used to ensure the validity of primary studies
Not stated.

Methods used to judge relevance and validity, and for extracting data
Not stated.

Number of primary studies included
A total of 35 studies were included in the review.

Methods of combining primary studies
Not stated.

Investigation of differences between primary studies
Not stated.

Results of the review
Both treatments were reported to be similarly effective (near 100% cure rate). Relapse rates were less than 1% in the RPLND group and 4-8% in the primary chemotherapy group. Mortality rates were 0% and 1-6% respectively. Morbidity in the RPLND group was 1% (pulmonary) and 1% (SBO). In the primary chemotherapy group, 50% of patients had minor chemotherapy-related morbidity and 15% major chemotherapy-related morbidity. 35% of patients undergoing RPLND needed additional chemotherapy or might receive two courses as immediate adjuvant chemotherapy. 20-33% of patients receiving primary chemotherapy underwent post-chemotherapy surgery. In the RPLND group, fertility was as before surgery, 90-99% mature. In the primary chemotherapy group, fertility was less than 50% at 2 year follow-up. On the quality of life measures, 6-20% of RPLND patients were anxious/depressed compared to 6-30% in the primary chemotherapy group. 1-10% of patients in the RPLND group were sexually dysfunctional compared to 10-30% in the primary chemotherapy group.

Measure of benefits used in the economic analysis
No summary benefit measure was identified in the economic analysis, and only separate clinical outcomes were reported.

Direct costs
Costs were not discounted despite adopting a follow-up period of 5 years. Quantities were partially reported separately from the costs. Direct health service costs were considered: those for primary RPLND, post-chemotherapy RPLND, chemotherapy (3 courses of BEP), CT scans, biochemical markers and chest X-rays. The costs of RPLND and chemotherapy were estimated from the actual cost to patients undergoing these treatments during 1992. The cost of follow-up was based on local fee schedules for the appropriate radiologic and laboratory tests. The date of the price data was 1992.

Indirect Costs
Only the time lost because of therapy was reported, but no attempts were made to convert it to indirect costs.
Currency
US dollars ($).

Sensitivity analysis
No sensitivity analysis was performed.

Estimated benefits used in the economic analysis
Not applicable.

Cost results
The cost per patient in the RPLND group ranged from $29,300 to $34,800 compared to $47,360 in the primary chemotherapy group. The overall time lost was reported to be higher in the chemotherapy group.

Synthesis of costs and benefits
Costs and benefits were not combined.

Authors' conclusions
RPLND is definitely less expensive over a 5-year period. In addition, the morbidity issue favoured RPLND in the areas of fertility, toxicity, and late relapse. The two options did not differ significantly in terms of survival or quality of life. Patient compliance with follow-up, the specific expertise of the physicians, and the availability of specialised therapeutic care ultimately may influence treatment decisions.

CRD COMMENTARY - Selection of comparators
The reason for the choice of the comparator is clear.

Validity of estimate of measure of effectiveness
The internal validity of the effectiveness results cannot be guaranteed in view of the lack of a comprehensive review of the literature and quality assessment of the primary studies included in the review.

Validity of estimate of measure of benefit
Since the study lacked a summary benefit measure in the economic analysis, it may be regarded as a cost-consequences study.

Validity of estimate of costs
Quantities were not systematically reported separately from the costs and insufficient detail was provided regarding the methods of cost estimation.

Other issues
In view of the lack of a quality assessment of the primary studies included in the review and the absence of both sensitivity analysis, and statistical analysis of the costs, the results need to be treated with some caution. The issue of generalisability to other settings or countries was not addressed.

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None stated

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