TRAPEZE: a randomised controlled trial of the clinical effectiveness and cost-effectiveness of chemotherapy with zoledronic acid, strontium-89, or both, in men with bony metastatic castration-refractory prostate cancer

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Plain English summary

TRAPEZE: effectiveness of chemotherapy with ZA, Sr-89, or both

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Plain English summary

TRAPEZE evaluated the use of two bone-targeting therapies, strontium-89 (Sr-89) and zoledronic acid (ZA), in men receiving docetaxel chemotherapy for relapsing prostate cancer involving the skeleton. Bony disease can cause pain, fractures and other serious complications. Docetaxel has been shown to increase survival and improve quality of life (QoL) in this setting. Intravenous ZA has been shown to reduce skeletal complications in prostate cancer, but is not recommended for general use because of doubts over its cost-effectiveness. Sr-89 is a radioactive drug taken up by bone cancer deposits and is recommended by the National Institute for Health and Care Excellence when chemotherapy is unsuitable.

TRAPEZE showed that adding Sr-89 to docetaxel delayed deterioration by around a month, but did not result in any improvement in overall survival. Adding ZA did not delay deterioration but did reduce subsequent serious bone complications by around one-third, with a 50% reduction in the most serious events such as fracture and spinal cord compression. QoL was well maintained. Both drugs increased treatment costs but decreased post-trial therapy costs because of delayed deterioration and, for ZA, decreased surgery and radiotherapy for bone complications.

Incremental costs per quality-adjusted life-year (QALY) for branded ZA and Sr-89 were calculated at £42,047 and £16,590, respectively. Sr-89 net acquisition was £1341 with modest gains in QoL and cost per QALY gained, a measure of the effectiveness of drug treatments. For ZA, net acquisition was £1319, but this cost was reduced to £251 by using the generic drug. The cost per QALY for the generic drug fell to £8005, making ZA both cost-effective and clinically effective as a therapy.

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