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Treating children with cancer: looking to the future (http://www.evidentlycochrane.net/treating-children-cancer-looking-future/)

BY SARAH CHAPMAN (HTTP://WWW.EVIDENTLYCOCHRANE.NET/AUTHOR/SARAHKCHAPMAN/) // JANUARY 23, 2015 // 1 (HTTP://WWW.EVIDENTLYCOCHRANE.NET/TREATING-CHILDREN-CANCER-LOOKING-FUTURE/#COMMENTS) COMMENTS

Look how far we've come!

Cancer deaths in children and young people have fallen by almost 60% in the past 40 years, according to figures released by Cancer Research UK (http://www.cancerresearchuk.org/about-us/cancer-news/press-release/2015-01-22-cancer-deaths-in-youngsters-drop-by-nearly-60-per-cent-in-40-years) yesterday. What fantastic news! Progress in cancer treatments have cut cancer deaths in the under 24s from around 1,300 a year in the mid-1970s to around 550 today.

But…

Let's not forget that cancer is still the leading cause of death in children and of death by disease in teenagers and young adults in the UK, and that cancer and its treatment has a huge impact on these young ones, many of whom will have to live with side effects (such as infertility and hearing loss) throughout their lives. Along with releasing these figures, the charity has launched *Cancer Research UK Kids & Teens* (http://www.cancerresearchuk.org/support-us/donate/kidsandteens) – an ongoing campaign to **FUND** more research to find better, kinder treatments and cures to beat cancer in younger people sooner.

It's not just about survival

For any child or young person with cancer, and their family, "am I going to get better?" may be the first and most important question. But cancer treatments can wreak their own havoc on the body and it's important to know how we can reduce the risk of side effects and permanent damage. Some recent Cochrane reviews have looked at the effectiveness and harms of childhood cancer treatments. Cochrane reviews are independent, reliable evidence summaries which show us what is known about the benefits and harms of treatments and where there is a need for high quality research.

Anthracyclines and heart damage

Anthracyclines are used for treating a number of childhood cancers but can damage the heart. This can show up during treatment but also years later. So a decision to use anthracyclines should take into account evidence about its anti-tumour effects and the risk of heart damage. A Cochrane review (http://summaries.cochrane.org/CD006647/CHILDCA_treatment-with-or-without-anthracycline-chemotherapy-for-childhood-cancer) comparing treatment with and without anthracyclines for childhood cancers found no high quality evidence that treatment for acute lymphoblastic leukaemia (ALL) which includes anthracyclines is more effective. Individual studies suggest this might be the case but this needs investigating in more trials. There were some trials with children with other types of cancers but too few to be able to draw conclusions. The reviewers found five ongoing or unpublished randomised studies evaluating the use of anthracyclines in children with hepatoblastoma, ALL (two studies), rhabdomyosarcoma, and Wilms' tumour.

Preventing treatment-related hearing loss

Platinum-based chemotherapy (including cisplatin, carboplatin and/or oxaliplatin) is used to treat different types of childhood cancer. Unfortunately, it can cause **HEARING LOSS AND TINNITUS**, both during treatment and much later. Two ways it might be possible to protect hearing in children having platinum-based chemotherapy are with drugs and by giving chemotherapy more quickly or slowly.

A Cochrane review (http://summaries.cochrane.org/CD009219/CHILDCA_drugs-to-prevent-hearing-loss-in-children-receiving-platinum-chemotherapy-for-cancer) found three studies comparing the drug amifostine with no extra

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treatment. The evidence isn't very good and the results of the studies couldn't be combined. Only one study gave information about the effects on tumours and about side effects and none of them reported on survival or quality of life, so no conclusions can be drawn.

Chemotherapy is often given by infusion – through a drip or pump into a vein, and this can take anything from thirty minutes to a few days. A Cochrane review (http:/http://summaries.cochrane.org/CD010885/CHILDCA_different-infusion-durations-for-preventing-platinum-induced-hearing-loss-in-children-with-cancer) looked at whether the length of time taken could be important for protecting hearing from platinum damage. There was only one small randomised trial, comparing cisplatin given over an hour or continuously (the length of time was unclear!) to children with neuroblastoma and there were lots of problems with the way it was reported, so again we are left not knowing what difference infusion time might make.

Minimally-invasive surgery for solid tumours

Minimally-invasive surgery (MIS) may prove to be a good alternative to open surgery for children for removing solid tumours in the abdomen or chest. But while its use is becoming more common, there's currently no evidence from controlled trials involving children to guide practice. The Cochrane team who recently updated this review (http://summaries.cochrane.org/CD008403/CHILDCA_minimally-invasive-surgery-compared-to-open-surgery-for-the-treatment-of-solid-tumours-located-in-the-chest-or-the-abdomen-of-children) say that the use of MIS for treating children with these tumours should be considered experimental. They call for centres specialising its use to collaborate to compare MIS with open surgery in the context of high quality randomised controlled trials.

We need reliable evidence

These reviews have found no evidence that these approaches are effective. This is not the same thing as saying they don't work; rather, that we haven't yet got reliable evidence to show whether they do. As well as showing what is and isn't known, Cochrane reviews include a section discussing what future research needs to address and highlighting ways the research can be of high quality and make a useful contribution to the body of knowledge. It's clear from the reviews here that more, better research is urgently needed, and Cancer Research UK's Kids and Teens campaign also stresses the importance of research into kinder treatments which will continue to improve survival but have fewer side-effects. You can read more about their campaign here (http://www.cancerresearchuk.org/support-us/donate/kidsandteens).

We also need to talk

It's my friend Sylvia's birthday on Wednesday. She shared her birthday with her son Matthew. But Matthew died a few weeks short of his 18th birthday, 24 years ago. I was a staff nurse on the children's cancer ward where Matthew was a patient and over the months I was privileged to look after this young man became close to his family. Communication was, of course, key through this time. But, all these years on, I'm wondering how Sylvia views that time in terms of how we all talked about, and with, Matthew and what he was going through. How have things changed in terms of talking about cancer with children and young people, and their families? Do we have any evidence to help us know how to communicate well? I'll be returning to this important topic, and Sylvia will be sharing some thoughts, in a future blog.

Featured image taken from: http://www.birmingham.ac.uk/alumni/giving/Childrens-brain-cancer.aspx (http://www.birmingham.ac.uk/alumni/giving/Childrens-brain-cancer.aspx)

Links:

van Dalen EC, Raphaël MF, Caron H, Kremer LCM. Treatment including anthracyclines versus treatment not including anthracyclines for childhood cancer. Cochrane Database of Systematic Reviews 2014, Issue 9. Art. No.: CD006647. DOI: 10.1002/14651858.CD006647.pub4 – See more at: http://summaries.cochrane.org/CD006647/CHILDCA_treatment-with-or-

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van As JW, van den Berg H, van Dalen EC. Medical interventions for the prevention of platinum-induced hearing loss in children with cancer. Cochrane Database of Systematic Reviews 2014, Issue 7. Art. No.: CD009219. DOI: 10.1002/14651858.CD009219.pub3 – See more at: http://summaries.cochrane.org/CD009219/CHILDCA_drugs-to-prevent-hearing-loss-in-children-receiving-platinum-chemotherapy-for-cancer#sthash.lPdsZmGQ.dpuf (http://summaries.cochrane.org/CD009219/CHILDCA_drugs-to-prevent-hearing-loss-in-children-receiving-platinum-chemotherapy-for-cancer#sthash.lPdsZmGQ.dpuf)

van As JW, van den Berg H, van Dalen EC. Different infusion durations for preventing platinum-induced hearing loss in children with cancer. Cochrane Database of Systematic Reviews 2014, Issue 6. Art. No.: CD010885. DOI: 10.1002/14651858.CD010885.pub2 – See more at: http://summaries.cochrane.org/CD010885/CHILDCA_different-infusion-durations-for-preventing-platinum-induced-hearing-loss-in-children-with-cancer#sthash.TLRA8UgA.dpuf (http://summaries.cochrane.org/CD010885/CHILDCA_different-infusion-durations-for-preventing-platinum-induced-hearing-loss-in-children-with-cancer#sthash.TLRA8UgA.dpuf)

van Dalen EC, de Lijster MS, Leijssen LGJ, Michiels EMC, Kremer LCM, Caron H, Aronson DC. Minimally invasive surgery versus open surgery for the treatment of solid abdominal and thoracic neoplasms in children. Cochrane Database of Systematic Reviews 2015, Issue 1. Art. No.: CD008403. DOI: 10.1002/14651858.CD008403.pub3 – See more at: http://summaries.cochrane.org/CD008403/CHILDCA_minimally-invasive-surgery-compared-to-open-surgery-for-the-treatment-of-solid-tumours-located-in-the-chest-or-the-abdomen-of-children#sthash.RtZpHOde.dpuf (http://summaries.cochrane.org/CD008403/CHILDCA_minimally-invasive-surgery-compared-to-open-surgery-for-the-treatment-of-solid-tumours-located-in-the-chest-or-the-abdomen-of-children#sthash.RtZpHOde.dpuf)

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Sarah's work as a Knowledge **BROKER** at the UKCC focuses on disseminating Cochrane evidence through social media, including Evidently Cochrane blogs and @ukcochranecentr on Twitter. She has a keen interest in exploring ways to share health evidence widely and encourage engagement with it, and in ensuring that research is shaped by the questions patients want answered. Before joining the UKCC in 2007, Sarah worked for a number of UK-based institutions, including the University of Oxford and the Royal College of Nursing Institute, conducting systematic reviews in many areas of health. She is also a qualified nurse and has a degree in History from the University of Oxford and in the history of women's health and illness in early modern England (MPhil., University of Reading).

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1.  Sacha Langton-Gilks

   View 2 weeks ago (http://www.evidentlycochrane.net/treating-children-cancer-looking-future/#comment-25281)
   What is so clear from this is how desperately we need good data. Compared to adult cancers, the small numbers of children & young people affected by these horrific cancers means it takes so long to gather enough data to prove what is and is not effective. This is made worse by the fact policy makers and the media continue to mix up children and teen/young people's cancers with the adult statistics. So on the Today Program on Radio 4 the other day they stated lung cancer was the biggest killer but that is only true for adults – in the young it is brain tumours. Public Health England will not include the campaign for the earlier diagnosis of brain tumours – HeadSmart – on the Be Clear on Cancer Campaign because the "disease cohort is not large enough". So earlier breast cancer diagnosis in the over 70s is included because they're a hard to reach group but there is nothing to prevent the awful outcomes from late diagnosis for the biggest killer of their grandchildren as a disease. I've asked the Minister to revise the methodology of Be Clear on Cancer on these grounds. The data is absolutely clear that earlier diagnosis of brain tumours gives much better outcomes – the UK is still 25% slower than Poland at diagnosing them. So far the government has not given a penny to any children's cancer awareness campaign, let alone HeadSmart. So thank you for highlighting the issue of children's cancer.

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