Optimization of care for patients with superficial basal cell carcinoma

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Chapter 8

IMPACT PARAGRAPH

What is the main objective of the research described in this thesis and what are the most important results and conclusions?

The aim of this thesis was to optimize the conditions for care of patients with superficial basal cell carcinoma (sBCC). The patient decision aid (PDA) had only a small and non-significant effect on patients’ mean decisional conflict levels, but had a positive effect on other outcomes. Patients who used the PDA had improved knowledge, indicated the PDA had added value, indicated that their need for information was met, and significantly more often made an ‘effective decision’ three months post-treatment. Making an effective decision means that patients are satisfied with their decision in hindsight and feel like they made an informed, value-based decision. A systematic review of economic evaluations for the treatment of sBCC was performed which led to the conclusion that surgery is a cost-effective treatment compared to non-invasive alternatives, and imiquimod is cost-effective compared to 5-Fluorouracil (5FU) and photodynamic therapy (PDT). The hypothesis that the long-term effectiveness of PDT could be improved by deploying fractionation of ALA-PDT instead of conventional MAL-PDT could not be confirmed. Furthermore, we found that misclassification of the BCC subtype based on a punch biopsy occurs in approximately 10% of the cases, but this risk can be minimized by evaluating at least two and preferably more levels of a punch biopsy. In conclusion, important steps towards optimization of care for patients with sBCC were taken by optimizing the decision-making process, identifying cost-effective treatments, and minimizing the risk of misclassification of BCC subtypes.

What is the contribution of the results from this research to science and societal challenges?

The Dutch ‘integral care agreement’ (in Dutch ‘integraal zorgakkoord’) published in 2022 emphasizes the importance of value-driven care and stresses that shared decision making should be an integral part of care. [1] Furthermore, there is an ongoing campaign launched by The Dutch Federation of Medical Specialists called ‘three good questions’ with the objective to stimulate patients to engage in the decision making process. [2] Chapter 2 of this thesis is in line with the integral care agreement and the ‘three good questions’ project by focusing on improving the shared decision making process for patients with sBCC by developing and testing a PDA. Because of the positive effects of
the PDA, we recommend that the PDA remains available online via www.keuzehulp.nl, free of charge. Information on the PDA should be included in the upcoming update of the Dutch BCC guidelines. This way, clinicians, patients, and future researchers can continue using the PDA. Future research concerning the PDA should focus on whether the PDA could be useful for subgroups of patients who indicate struggle or indecisiveness concerning the treatment decision during the decision-making conversation with their clinician.

Surgery is not only a highly effective treatment, it is also cost-effective. Moreover, over 50% of the patients, irrespective of using the PDA or not, chose surgical treatment for their sBCC. However, surgically removing every single sBCC could possibly lead to a capacity problem in terms of time, personnel, and resources. The incidence of BCC continues to rise which puts a burden on healthcare and raises healthcare costs. [3] The ‘sensible care’ (in Dutch ‘zinnige zorg’) project that was launched by the Dutch government in 2013 still aims, among others, at eliminating care that has alternatives with better value for money. The systematic review of economic evaluations for the treatment of sBCC showed that surgery is a cost-effective treatment compared to non-invasive alternatives. Compared to 5FU and MAL-PDT, imiquimod is a cost-effective treatment. MAL-PDT is not a cost-effective treatment. Fractionation of ALA-PDT did not lead to optimization of PDT. Therefore, use of PDT should be limited to a specific subgroup of patients for whom other treatment options are not suitable.

For whom are the results of this research interesting or relevant and why?

The research described in this thesis is relevant for patients with sBCC and their physicians. Patients can use the PDA to increase their knowledge and come to an effective treatment decision with their physician. Recently the Dutch skin cancer foundation HUKAS (de ‘Huidkanker Stichting’) was founded. The results of this research are also interesting for patients with sBCC connected to this foundation; the foundation will therefore receive a copy of this thesis.

Policy makers and health insurance companies can use the results of the systematic review of economic evaluations for the treatment of sBCC to stimulate the use of cost-effective treatments in light of sensible care.
Previous research at our department showed that imiquimod was both superior and dominant cost-effective over MAL-PDT. [4] The hypothesis that the long-term effectiveness of PDT could be improved by deploying fractionation of ALA-PDT instead of conventional MAL-PDT could not be confirmed. However, the 5-year probability of remaining free from tumour after MAL-PDT was 76.5%, probably because in the study population 98.7% of the patients had a sBCC outside the head and neck area. The superiority of imiquimod in terms of effects and costs over MAL-PDT has led to a sharp decrease in the use of MAL-PDT, a desired trend in terms of healthcare costs and sensible care. However, from the perspective of an individual patient who does not opt for surgery and cannot or will not apply cream, PDT can still be a valuable alternative with an excellent cosmetic outcome. Patients and physicians should engage in shared decision making, making use of the PDA if desired.

Furthermore, by minimizing the risk of misclassification, the risk of non-superficial recurrences following non-invasive therapy might also decrease. This has an impact on future patients as retreatment of a recurrent BCC comes with additional discomfort for patients. The results of the studies described in chapter 5 are also relevant for all clinicians who prescribe non-invasive therapies for sBCC. It is especially important that they plan follow-up visits for patient with sBCCs in the head and neck area that are treated non-invasively because misclassification of BCCs is more prevalent in that area. The outcomes are also interesting for pathologists who histologically examine BCCs.

**How can these populations be involved and informed concerning the research results in order to put the knowledge to use in the future?**

The current PDA had several positive effects and should be included in the upcoming update of the Dutch BCC guidelines so that physicians, pathologists, and patients are informed of its existence. However, the PDA had only a small and non-significant effect on mean decisional conflict levels, which is in line with a former PDA that was developed for patients with psoriasis. [5] We suggest that health care professionals, policymakers, patients, patient federations, and health insurance companies have an open discussion concerning which PDAs are needed in the field of dermatology in the future.

The upcoming update of the Dutch BCC guideline also creates an opportunity to raise awareness of the risk of misclassification of BCCs. A section could be added to inform readers of this risk of misclassification.
which is especially high in the head and neck area, and the option to minimize this risk by evaluating at least two and preferably more levels of a punch biopsy. Currently, this information is not included in the guidelines. [6]
REFERENCES

6. NVDV, Evidence Based Guideline Basal cell carcinoma. 2015, Nederlandse Vereniging van Dermatologie en Venereologie: Utrecht. p. 120.