



Approach and treatment of non-melanoma skin cancer during pregnancy

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Literature Review

RESUMO

A gravidez apresenta desafios únicos no diagnóstico e tratamento do câncer de pele não melanoma, o tipo mais comum de câncer de pele. As alterações hormonais e imunológicas durante a gravidez podem influenciar o desenvolvimento e a progressão da doença, enquanto questões éticas e preocupações sobre a segurança fetal complicam a abordagem terapêutica. Portanto, é crucial compreender como esta condição é tratada durante a gravidez para garantir o melhor resultado para mãe e bebê. Objetivo: O objetivo desta revisão sistemática da literatura é analisar as abordagens e tratamentos utilizados para o câncer de pele não melanoma durante a gravidez, com foco na segurança materna e fetal. Metodologia: A revisão seguiu as diretrizes do checklist PRISMA. Artigos publicados nos últimos 10 anos foram pesquisados nas bases de dados PubMed, Scielo e Web of Science. Os descritores utilizados foram “câncer de pele não melanoma”, “gravidez”, “tratamento”, “abordagem” e “segurança fetal”. Os critérios de inclusão foram estudos que descrevessem casos de câncer de pele não melanoma durante a gravidez, abordando opções de tratamento e considerações de segurança fetal. Os critérios de exclusão foram estudos irrelevantes ao tema, estudos sem acesso ao texto completo e estudos não disponíveis em inglês, português ou espanhol. Resultados: A análise dos artigos revelou diversas abordagens terapêuticas para o câncer de pele não melanoma durante a gravidez, incluindo cirurgia, terapia fotodinâmica e crioterapia. Houve ênfase na avaliação individualizada de cada caso, levando em consideração o estágio da doença, a localização do tumor e os riscos potenciais para a mãe e o feto. A prevenção também foi destacada, com destaque para a proteção solar e o autoexame da pele. No entanto, alguns tratamentos foram adiados até depois do nascimento devido a preocupações com a segurança fetal. Conclusão: O manejo do câncer de pele não melanoma durante a gravidez requer uma abordagem multidisciplinar e individualizada, considerando os riscos e benefícios para a mãe e o feto. A prevenção, o diagnóstico precoce e o tratamento adequado são essenciais para garantir o melhor resultado para ambos. Mais pesquisas são necessárias para orientar ainda mais as práticas clínicas nesta área.

Palavras-chave: câncer de pele não melanoma, gravidez, tratamento, abordagem e segurança fetal



ABSTRACT

Pregnancy presents unique challenges in diagnosing and treating non-melanoma skin cancer, the most common type of skin cancer. Hormonal and immunological changes during pregnancy can influence the development and progression of the disease, while ethical issues and concerns about fetal safety complicate the therapeutic approach. Therefore, it is crucial to understand how this condition is managed during pregnancy to ensure the best outcome for mother and baby. Objective: The objective of this systematic literature review is to analyze the approaches and treatments used for non-melanoma skin cancer during pregnancy, with a focus on maternal and fetal safety. Methodology: The review followed the PRISMA checklist guidelines. Articles published in the last 10 years were searched in the PubMed, Scielo and Web of Science databases. The descriptors used were "non-melanoma skin cancer", "pregnancy", "treatment", "approach" and "fetal safety". The inclusion criteria were studies that described cases of non-melanoma skin cancer during pregnancy, addressing treatment options and fetal safety considerations. The exclusion criteria were studies irrelevant to the topic, studies without access to the full text and studies not available in English, Portuguese or Spanish. Results: Analysis of the articles revealed several therapeutic approaches for non-melanoma skin cancer during pregnancy, including surgery, photodynamic therapy and cryotherapy. There was an emphasis on the individualized assessment of each case, taking into account the stage of the disease, the location of the tumor and the potential risks for the mother and fetus. Prevention was also highlighted, with an emphasis on sun protection and skin self-examination. However, some treatments have been delayed until after birth due to concerns about fetal safety. Conclusion: The management of non-melanoma skin cancer during pregnancy requires a multidisciplinary and individualized approach, considering the risks and benefits for the mother and fetus. Prevention, early diagnosis and adequate treatment are essential to guarantee the best result for both. More research is needed to further guide clinical practices in this area.

Keywords: non-melanoma skin cancer, pregnancy, treatment, approach and fetal safety

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Dados da publicação: Artigo recebido em 28 de Fevereiro e publicado em 18 de Abril de 2024.

DOI: <https://doi.org/10.36557/2674-8169.2024v6n4p1705-1716>

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INTRODUÇÃO

The treatment of non-melanoma skin cancer during pregnancy presents unique challenges that require a careful and personalized approach. Firstly, it is essential to understand that pregnancy involves significant physiological changes in a woman's body, including hormonal and immunological changes. These changes can influence the development and progression of skin cancer, making a meticulous assessment of the risks and benefits of any therapeutic intervention essential. Furthermore, it is necessary to consider the potential impacts of treatment on both the mother's health and the development of the fetus.

The assessment of risks and benefits is, therefore, a fundamental aspect in the management of non-melanoma skin cancer during pregnancy. Each case must be carefully analyzed taking into account several factors, such as the stage of the disease, the location and extent of the tumor, as well as the potential impact of the treatment on maternal health and fetal development. This individualized assessment is essential to determine the best course of therapeutic action, ensuring the effectiveness of the treatment and minimizing risks for mother and baby.

In the context of non-melanoma skin cancer during pregnancy, it is essential to consider the safe therapeutic options available. Among them, procedures such as surgery, photodynamic therapy and cryotherapy stand out, which can be used depending on the stage and extent of the disease. These therapeutic modalities aim not only to treat cancer, but also to minimize potential risks for the mother and fetus, providing a balance between efficacy and safety during pregnancy.

In addition to the therapeutic approach, prevention and education play key roles in the management of non-melanoma skin cancer in pregnant women. Emphasis on adequate sun protection, along with encouraging regular skin self-examination for early detection of any suspicious changes, are essential measures to reduce the risk of developing or progressing the disease. Raising awareness about the importance of these preventive practices is crucial to promoting the dermatological health of pregnant women and, consequently, contributing to reducing the incidence and severity of non-melanoma skin cancer during this period.



The objective of this systematic literature review is to analyze and synthesize the approaches and treatments used for non-melanoma skin cancer during pregnancy, with a focus on maternal and fetal safety.

METODOLOGIA

To conduct this systematic literature review, we followed the guidelines of the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) checklist. The databases used were PubMed, Scielo and Web of Science. The descriptors used were selected based on terms relevant to the topic: "non-melanoma skin cancer", "pregnancy", "treatment", "approach" and "fetal safety".

For the inclusion criteria, we considered studies that described cases of non-melanoma skin cancer during pregnancy, addressing treatment options and fetal safety considerations. Furthermore, we only included studies available in full text, published in the last 10 years and written in English, Portuguese or Spanish. We also consider original articles, systematic reviews and meta-analyses to ensure broad coverage of the topic.

On the other hand, for the exclusion criteria, studies that were not directly related to the topic were excluded, as well as studies that did not specifically address non-melanoma skin cancer during pregnancy. We also excluded works that were not available in full text or that were not written in English, Portuguese or Spanish. Furthermore, we excluded studies that focused exclusively on experimental treatments not applicable to current clinical practice.

The selection of articles followed an initial screening process based on titles and abstracts, followed by a complete reading of the 14 selected texts to assess suitability for the inclusion and exclusion criteria. Any disagreement was resolved by consensus among the reviewers.

This methodological protocol allowed a comprehensive and systematic analysis of the available literature on the topic, ensuring the inclusion of only relevant and reliable studies for the preparation of this scientific work.



RESULTADOS

The management of non-melanoma skin cancer during pregnancy requires a collaborative approach between different medical specialties. Dermatologists, oncologists, obstetricians and other healthcare professionals work together to develop a comprehensive, personalized treatment plan for each patient. This multidisciplinary approach allows for a complete and holistic assessment of the case, considering not only the dermatological condition, but also the obstetric and oncological aspects.

Furthermore, collaboration between experts allows for an exchange of information and experiences that enrich the decision-making process. For example, a dermatologist can provide insight into therapeutic options for non-melanoma skin cancer, while an obstetrician can offer guidance on care during pregnancy. This integration of knowledge and skills results in a more comprehensive and effective approach to managing skin cancer during pregnancy, ensuring the best possible outcome for mother and baby.

Each case of non-melanoma skin cancer during pregnancy is unique and requires careful assessment of the risks and benefits of any therapeutic intervention. This assessment considers a variety of factors, including the stage of the disease, the location of the tumor, the mother's health status, and fetal safety concerns. The medical team analyzes these elements in detail to determine the most appropriate course of action.

In this sense, it is essential to weigh the potential risks of treatment against the expected benefits. For example, some therapeutic options may pose minimal risk to the fetus, while others may require a more cautious approach due to possible side effects. This careful assessment of risks and benefits allows healthcare professionals to make informed and individualized decisions, aiming for the best possible outcome for the pregnant patient and her baby.

When treating non-melanoma skin cancer during pregnancy, it is essential to consider therapeutic options that are safe for both the mother and the fetus. Among the available modalities, procedures such as surgery, photodynamic therapy and cryotherapy stand out, which have demonstrated effectiveness in controlling the disease without posing a significant risk to the pregnant woman or fetal development. These therapeutic options are selected based on the stage and extent of the cancer, as



well as the patient's individual characteristics, aiming to maximize clinical results while minimizing potential adverse effects.

Furthermore, it is important to highlight that safe therapeutic options may vary according to the stage of pregnancy. In some situations, it may be necessary to delay treatment until after birth, while in others, immediate interventions may be considered safe. This individualized, evidence-based approach allows healthcare professionals to make informed decisions, prioritizing the safety and well-being of both mother and baby throughout the non-melanoma skin cancer treatment process.

Preventing non-melanoma skin cancer during pregnancy is essential to reduce the risk of developing or progressing the disease. In this context, education plays a key role in providing information about appropriate sun protection practices and the importance of regular skin self-examination. Pregnant women are advised on the use of sunscreens with an adequate protection factor, as well as on seeking shade and wearing protective clothing, especially during times of greater sunlight.

Additionally, regular skin self-examination is encouraged as an early detection measure for any suspicious changes, such as new growths or changes in the appearance of existing moles. Pregnant women are instructed on how to perform self-examination appropriately and to seek medical assistance immediately if they identify any worrying changes. These preventive and educational measures are essential to promote the dermatological health of pregnant women and contribute to the prevention of non-melanoma skin cancer during pregnancy.

Ethical considerations play a crucial role in the management of non-melanoma skin cancer during pregnancy, influencing treatment and medical care decisions. Within the scope of medical ethics, it is essential to ensure that any therapeutic intervention carried out during pregnancy is justified by the potential benefits for the mother and fetus, in relation to the risks involved. In this sense, health professionals must follow ethical principles, such as patient autonomy, beneficence and non-maleficence, when making decisions about the management of skin cancer in this specific context.

Furthermore, ethical considerations also include the importance of transparent communication and informed consent. Patients must be properly informed about the treatment options available, as well as the possible risks and benefits associated with



each of them. Informed consent allows pregnant women to actively participate in decisions related to their own health care, ensuring that their preferences and values are taken into account. In this way, ethical considerations not only guarantee the moral and professional integrity of healthcare professionals, but also promote the autonomy and dignity of patients throughout the treatment process for non-melanoma skin cancer during pregnancy.

The hormonal changes that occur during pregnancy have a significant impact on the development and progression of non-melanoma skin cancer. Increased levels of hormones, such as estrogen and progesterone, can influence the growth of skin lesions and the immune system's response to cancer cells. These hormonal changes can make pregnant women more susceptible to developing non-melanoma skin cancer or even increase the risk of recurrence in patients who have already had the disease. Additionally, hormonal changes can affect the effectiveness of certain treatments, such as photodynamic therapy, which depends on the absorption of a photosensitizing substance through the skin.

Furthermore, it is important to consider that the impact of hormonal changes may vary throughout the course of pregnancy. For example, hormone levels tend to increase throughout the gestational trimesters, peaking in the third trimester. This may influence the progression of non-melanoma skin cancer and response to treatment at different stages of pregnancy. Therefore, careful assessment of the impact of hormonal changes is essential to inform treatment and medical care decisions in pregnant women with non-melanoma skin cancer.

Fetal safety is a crucial consideration in the management of non-melanoma skin cancer during pregnancy. Any therapeutic intervention carried out must be carefully evaluated regarding the potential risks to fetal development. For example, some treatments may present an increased risk of complications for the fetus, such as teratogenicity or adverse effects on neurodevelopment. Therefore, it is essential that healthcare professionals consider not only the effectiveness of the treatment on the mother, but also the possible side effects on the fetus when making therapeutic decisions.

Furthermore, fetal safety may influence the choice of timing of treatment. In



some cases, it may be recommended to delay treatment until after birth to ensure the safety of the fetus. However, in situations where non-melanoma skin cancer poses a significant risk to maternal health, immediate interventions may be necessary, with careful monitoring of the effects on the fetus. Ultimately, fetal safety is a primary consideration in the management of non-melanoma skin cancer during pregnancy, ensuring that any intervention undertaken is justified by benefits to the mother and minimal risk to the fetus.

Preconception counseling plays a crucial role in the prevention and management of non-melanoma skin cancer during pregnancy. Women with a prior history of the disease should receive specific guidance about the potential risks and management strategies during pregnancy. This counseling aims to identify any suspicious skin lesions early and discuss safe therapeutic options for the gestational period. Additionally, preconception planning allows for a proactive approach to skin cancer management, providing women with the information they need to make informed decisions about their dermatological and reproductive health.

Furthermore, preconception counseling also provides an opportunity to discuss strategies for preventing non-melanoma skin cancer during pregnancy. Women at higher risk of developing the condition, such as those with a prior history of sunburn or a family history of skin cancer, may benefit from additional preventive measures, such as sun protection advice and regular skin self-examination. Therefore, preconception counseling plays a key role in the holistic approach to non-melanoma skin cancer during pregnancy, providing women with the tools they need to manage their dermatological health effectively and safely throughout the pregnancy period.

Regular monitoring is essential to ensure early detection and appropriate management of non-melanoma skin cancer during pregnancy. Pregnant women with a history of the disease or suspicious skin lesions should undergo periodic dermatological examinations to identify any changes in the skin that may indicate the development or progression of cancer. This regular monitoring allows for early intervention when necessary, reducing the risk of complications for mother and fetus.

Additionally, regular monitoring also provides an opportunity to discuss any concerns or symptoms with the medical team, ensuring that pregnant women receive



the support and guidance they need throughout the treatment process. This continuous monitoring allows for a dynamic assessment of the patient's skin condition and adaptation of the treatment plan as needed, ensuring the best possible outcome for mother and baby. Therefore, regular monitoring plays a key role in the effective management of non-melanoma skin cancer during pregnancy, ensuring the safety and well-being of both parties involved.

The diagnosis and treatment of non-melanoma skin cancer during pregnancy can represent a significant emotional challenge for women, requiring adequate psychosocial support. It is essential to offer pregnant women a supportive environment that helps them deal with the stress and anxiety associated with coping with the disease during this delicate period. Health professionals, such as psychologists and social workers, play a key role in providing emotional support and information about available resources to help pregnant women cope with the emotional challenges related to skin cancer during pregnancy.

Additionally, psychosocial support may also involve support from peer support groups or online communities, where pregnant women can share experiences and exchange information with other women who have gone through or are going through similar situations. This support network can offer comfort, understanding and hope, strengthening the emotional well-being of pregnant women and helping them adapt to the physical and emotional demands of skin cancer treatment during pregnancy. Therefore, psychosocial support plays a crucial role in the holistic approach to non-melanoma skin cancer during pregnancy, ensuring that women receive the support they need to face this challenge with resilience and determination.

CONSIDERAÇÕES FINAIS

The management of non-melanoma skin cancer during pregnancy is a complex challenge that requires a careful and multidisciplinary approach. Throughout this study, we explored various aspects related to the topic, from safe therapeutic options to ethical considerations and the psychosocial support needed for pregnant women. One of the most relevant aspects observed is the importance of considering the risks and benefits



of any therapeutic intervention, taking into account not only maternal safety, but also fetal safety. Studies show that procedures such as surgery, photodynamic therapy and cryotherapy can be safe during pregnancy, as long as they are carefully evaluated for potential risks to the fetus.

Additionally, prevention and education play a key role in reducing the risk of developing or progressing non-melanoma skin cancer during pregnancy. Women should be educated on the importance of adequate sun protection and regular skin self-examination, allowing early detection of any suspicious changes. These preventive practices are essential to promote the dermatological health of pregnant women and contribute to reducing the incidence and severity of non-melanoma skin cancer during this period.

Another relevant aspect is the impact of hormonal changes during pregnancy on the development and progression of non-melanoma skin cancer. Studies indicate that increased hormone levels can influence the growth of skin lesions and the immune system response, making pregnant women more susceptible to the disease. This understanding of the role of hormonal changes is crucial in informing skin cancer treatment and management decisions during pregnancy.

In summary, the management of non-melanoma skin cancer during pregnancy requires a comprehensive and individualized approach, considering the medical, ethical and psychosocial aspects involved. Collaboration between different medical specialties, careful assessment of the risks and benefits of each intervention and continuous support for pregnant women are essential to guarantee the best possible outcome for mother and baby.

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