Sultan Qaboos University Med J, February 2019, Vol. 19, Iss. 1, pp. e81–82, Epub. 30 May 19
Submitted 23 Jan 19
Revisions Req. 3 Feb & 24 Feb 19; Revisions Recd. 3 Feb & 26 Feb 19
Accepted 4 Mar 19
https://doi.org/10.18295/squmj.2019.19.01.017

LETTER TO THE EDITOR

The '5R + R' Rule

A simple and comprehensive method for diagnosis of actinic keratosis

قاعدة 'R + R5'

طريقة بسيطة وشاملة لتشخيص التقرن الشعاعي

Dear Editor,

Actinic keratoses (AKs) or 'solar keratoses' are cutaneous lesions that arise on areas of the skin that are chronically exposed to ultraviolet (UV) radiation [Figure 1]. AKs are considered early manifestations of non-melanoma skin cancer as they can progress to squamous cell carcinoma (SCC) which can be invasive and life-threatening. The estimated rate of malignant conversion to SCC ranges from 0.025–20% per year and increases with the number of lesions.[1]

AK is a prevalent disease and a major public health problem due to its growing incidence and its potential for malignant transformation.[2] Despite this, low awareness of the risk of malignant transformation and lack of standardised methods of diagnosis are the main challenges in AK management.[3] To address this unmet need, the authors of this letter have developed a simple, yet comprehensive method of diagnosis. The reddish, rough, recurrent, cephalic region, radiation + risk (5R + R) rule is an easy-to-remember method that can be used in both primary and secondary care settings for routine clinical examinations. This formula is important during the physical examination as it can help physicians with regard to differentiating lesions that have a similar appearance.

This mnemonic includes 'Rs' that refer to easily identifiable predictive factors of AK [Table 1]. The first 'R' is for 'reddish' and highlights the need to examine visible characteristics of AK lesions. AKs typically present as erythematous macules, papules or plaques ranging from skin-coloured to reddish-brown.[1] The second 'R' stands for 'rough' and stresses the need to explore the texture of the lesions. AK lesions are often easily recognised by palpation, presenting a rough surface with a sandpaper-like structure. Both colour and thickness of lesions are among the main distinctive features of AK that correlate with clinical grading.[1] The third 'R' is for 'cephalic region' which focuses on the location of AK lesions that tend to develop on the cephalic region that is constantly exposed to UV radiation such as the head and neck.[1] The fourth 'R' is for 'UV radiation', which is the main risk factor for AK development due to its DNA-damaging potential.[1] Chronic exposure to UV radiation leads to the accumulation of mutations that can ultimately result in malignant transformation. Thus, lifetime sun exposure, sunburns and other related risk factors should be recorded during the initial evaluation of the patient. Likewise, caregivers should check periodically all the exposed areas of the skin for signs of sun damage such as *telangiectasia*, wrinkles, dryness, dyschromia and elastosis.[4] The fifth 'R' is for 'recurrent' because with sun exposure, it is common to find recurrent lesions with a complicated management. New lesions tend to appear frequently in the same sun exposed areas even after proper treatment. This item reinforces the need to follow-up patients periodically to detect recurrent lesions.[5]

Figure 1: Actinic keratosis on scalp of a patient with different clinical appearance.

Table 1: The reddish, rough, recurrent, cephalic region, radiation + risk rule for diagnosis of actinic keratoses

5R + R	Action
Reddish	Examine visible signs of AK lesions
Rough	Assess the texture and thickness of AK lesions by palpation
Cephalic region	Evaluate the location of the lesions
Radiation	Check for signs of sun-damaged skin
Recurrent	Follow-up periodically on AK lesions
+ Risk	Manage the lesions to reduce the risk for malignant progression

5R + R = reddish, rough, recurrent, cephalic region, radiation + risk; AK = actinic keratosis.

Finally, '+ R' stands for major risk. Although AK carries a risk for malignant transformation, this varies between studies.[5] The presence of AKs indicate solar damage, which increase the risk for skin cancers. Therefore, the risk is not necessarily from the progression of AKs to SCC but from cumulative solar damage to the skin. All lesions should be managed efficiently through treatment, prevention and follow-up.

Unfortunately, the United States Preventive Services Task Force concluded in 2016 that there was insufficient evidence to assess the benefit and harms of visual skin examination by a clinician for screening for skin cancer in asymptomatic adults.[4] Nevertheless, the chronic and progressive nature of AKs implies a careful examination and periodic review in patients with an increased risk of non-melanoma skin cancer.[4,6] The '5R + R' rule is intended to familiarise caregivers with AK diagnosis by proposing a comprehensive method which allows for easy recall. The implementation of this method in clinical practice will require clinical studies demonstrating that routine evaluations of patients following the '5R + R' rule increases early AK detection and decreases the incidence of recurrence and malignant progression.

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