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Clinics in Dermatology

Commentary: The rash from nuisance to life-threatening

> "When you begin practice, I would advise that you specialize in dermatology, because nobody ever dies of a skin disease, and nobody ever gets well."
>
> [Louis A. Duhring (1845-1913)[1]]

Identifying critical situations, red flags, and emergencies, and making that all-important initial diagnosis

It is often believed that dermatology does not involve life-threatening situations, with many observers considering skin disorders as being only skin deep and of no more than cosmetic importance. Most rashes are, indeed, benign and can be dealt within an outpatient setting. Unfortunately, however, there are a considerable number of acute, severe, life-threatening dermatologic diseases, or serious, critical, lethal systemic diseases with cutaneous manifestations that require prompt and early recognition and management to prevent devastating sequelae and a catastrophic, disastrous outcome.

The purpose of these issues of *Clinics in Dermatology* is to help clinicians arrive at an initial diagnosis, identify critical situations, recognize red flags that signal real emergencies, and differentiate everyday skin ailments from conditions that are genuinely serious to the point of being life-threatening. Although this issue is aimed mainly for dermatologists, it is also intended for other physicians who may be the first to examine patients with rashes or skin lesions in hospitals or outpatient clinics and whose responsibility it is to quickly and correctly identify critical situations to rapidly choose the appropriate interventions.

We realize that most of our readers are not likely to be the attending physicians or hospitalists responsible for treating severely ill patients in the hospital setting. We do think, however, that these issues of *Clinics in Dermatology* are of immense importance to all readers, and that its message should reach all of you. If, by chance, you come across such patients, you should be able to identify the emergency and act appropriately.

Although dermatologists may not need to carry out all the functions of modern dermatology, such as the interpretation of a dermatopathologic slide, the performance of surgical procedures, or the utilization of lasers, to name just a few, we do have a responsibility to identify and treat acute, life-threatening diseases. All of us should be able to identify critical situations, red flags, and emergencies. We should be familiar with the cutaneous findings of acute and potentially lethal diseases.

The uniqueness of the structure and focus of this issue of *Clinics in Dermatology*

More than 10 years ago, *Clinics in Dermatology* published two issues devoted to life-threatening skin diseases, in which we described dermatologic emergencies.[2,3] The chapters were organized according to disease categories. These two issues then morphed into *Emergency Dermatology*.[4,5] In the present issue, the chapters will focus on the morphology of the eruptions, their reaction patterns, and the cutaneous manifestations of serious systemic diseases. The format is designed to instruct the reader on how to categorize them and how to use a differential diagnostic algorithm that rapidly proceeds from a broad inclusion of possibilities to fewer and fewer, until the most likely condition requiring urgent attention is elucidated. The algorithm that appears at the end of each chapter summarizes the conditions pertinent to that specific category of pathologies, and it guides the reader from the first examination that elicits multiple possibilities to reach the most likely diagnosis among them.

What are rashes?

It has been said that pediatricians diagnose rashes, and dermatologists are concerned with eruptions. As much as we may try to avoid the word *rash,* it sometimes cannot be done, much to the dismay of Herman Beerman (1901-1995), late professor

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of dermatology at the University of Pennsylvania.[6] A stickler for using the English language appropriately, he believed that the term belonged more to pediatricians than to dermatologists.

Be that as it may, the *Oxford English Dictionary* lists seven different definitions for the word *rash*, the second being that of a skin eruption. Its use began in 1709, much later than its other definitions.[7] Morris Leider (1908-1987) and his associate Morris Rosenblum, the "Samuel Johnsons" of dermatology, defined rash:

> A word of dubious origin. It may derive vis [sic] Old French *ra(s)che,* eruption, from Latin *radere,* to scratch, and *rasus,* scraped. If so, *abrade* and *abrasion* are related to it. In any event, the word is used, more by the laity but often enough by the dermatologic cognoscenti, for ab eruption on the skin. There is a sense of sudden appearance and severity of process in the word. One frequently hears it as *skin rash,* which is needlessly explicative.[8]

Thomas Bateman (1778-1821), who continued Willan's pioneer work in dermatology with his 1813 text, discussed *exanthema (rash)* as, "Superficial red patches, variously figured, and diffused irregularly over the body, leaving interstices of a natural color, and terminating in cuticular formation."[9]

Louis A. Duhring, the first professor of dermatology at the University of Pennsylvania, who published *A Practical Treatise on Diseases of the Skin* in 1877, seems to have avoided the word *rash.*[10] Other early dermatologists also do not appear to have been fond of the word.

Despite the limited definition, the word continues to flourish both by the laity and the physician alike. And so, we have used *rash* for this issue of *Clinics in Dermatology.*

All about rashes

Inamadar and Ragunatha present the many faces of erythroderma. It is not always immediately apparent what the cause of the diffuse redness and possible exfoliation may be.[11]

Although an eschar may appear to be just another scar, Dunn and Rosen point out the necessity of attempting to determine the underlying cause, which can be numerous, so that appropriate therapy may be instituted.[12]

Muzumdar, Rothe, and Grant-Kels address the problem of fever and a maculopapular rash, first in an adult and second in a child. Such infectious processes as West Nile virus, Zika virus, or the more familiar infectious mononucleosis and rubella, all enter into the differential diagnosis when infection is being considered.[13,14]

A rash that may be both painful and have red nodules is the situation that Inamadar and Adya address. The redness may or may not be associated with pain or itching and may even represent an underlying malignancy or vasculitis.[15]

Lavery and Wolf find that poisoning is far more varied than "Arsenic and Old Lace" and may even represent evil, as in the demise of Alexander Litvinenko's poisoning from polonium-210.[16]

The final paper in Part I concerns target lesions, written by our group. The obvious would be the iris lesion of the Stevens-Johnson syndrome or toxic epidermal necrolysis group, but there are also the more unusual ones in paraneoplastic pemphigus in a generalized fixed drug eruption.[5]

Conclusions

We consider ourselves especially fortunate in being able to bring together a group of the world's first-rate specialists, the top "players" in the lively, complicated, and most important field of dermatologic emergencies and life-threatening skin diseases. They have consented to give of their valuable time and vast experience to cover this complex and vital issue in both a comprehensive and practical manner. They have created an algorithmic, systematic, and logical approach to diagnosing patients with life-threatening dermatologic diseases, or patients suffering from serious systemic diseases with cutaneous clinical manifestations.

If this issue of *Clinics in Dermatology* helps practicing dermatologists and other clinicians to cope with dermatologic emergencies, to know what to do when confronted with a patient who is severely ill or to differentiate among the gradations of disease severity, and to identify red flags and emergencies, it will have been worth the effort.

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