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PERSPECTIVE

Management of co-morbid allergic rhinitis and asthma in a low and middle income healthcare setting

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Rhinitis is a very commonly reported disease in low and middle income countries (LMICs).[1,2] Usually the paucity of facilities available to diagnose allergic disease and for differentiating between allergic and non-allergic forms of rhinitis leads to an over-reporting of "allergic" rhinitis, whereas in fact, allergy may not always be the cause.[3]

The use of terms like "hay fever", in which there is no involvement of hay, nor is there any fever, makes translations of literature and questionnaires into other languages difficult[4] – especially in languages where the words for "flu" infection

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(influenza virus-induced rhinorrhoea) and rhinorrhoea due to allergy are the same. The public feel comfortable labelling any nasal symptom as allergy; when the symptoms are triggered or exacerbated by cold air or exposure to sunlight, they will commonly use the expression "being allergic to" air conditioning or to the sun.[5]

Most patients with allergic rhinitis are treated by general practitioners (GPs).[6,7] Lack of awareness amongst GPs about diagnostic criteria and differentiation between allergic and non-allergic rhinitis are major factors which make identification and assessment of the prevalence of allergic rhinitis a difficult task.[8] This is compounded by the lack of properly trained and qualified allergists, and further challenged by the lack of appropriate specific allergen extracts for diagnosis and therapy of allergic disease. Many patients prefer to visit local pharmacies for relief of their ailments. In many LMICs, although legally a pharmacy requires the presence of a qualified pharmacist this is often not the case (especially in private sector pharmacies) – hence patients may be guided by an untrained and unqualified person in the pharmacy who may advise anything from a first generation anti-histamine to an antibiotic or even oral steroids for the treatment of rhinitis, depending on his/her limited knowledge and experience. In some countries, direct-to-patient advertising also greatly influences the prescribing of drugs for allergic diseases.

For confirmation of an allergy by testing, it is imperative that a specific, purified, and standardised allergen extract pertinent to the region, environment and conditions in which the patient lives is available.[9] There are allergens present in LMICs which are not common in developed countries – for example, the severely allergenic pollen from the tree *Broussenetia papyrifera*[10] (the common paper mulberry tree) which is a strong allergen in some areas of Pakistan and which releases large quantities of pollen in the air which reach alarmingly high counts and can induce severe asthma symptoms within minutes.[11] The production of highly allergenic dusts from mechanically operated wheat threshers in South Asia can affect patients several miles downwind in wheat growing countries.[12] Olive pollen in Middle Eastern countries causes rampant seasonal allergic rhinitis and asthma.[13] In countries with poor environmental control laws, the presence of high quantities of allergenic substances like fungal spores in closed air-conditioning systems have been implicated in causing symptoms described as the "sick building syndrome".[14-16]

In the absence of specific allergen extracts or other diagnostic tests, diagnosis has to rely on the physician's clinical observations and knowledge about local patterns of disease,[17] and the seasons and circumstances in which allergic diseases are increased.[18] Although internationally recommended guidelines are available, the primary care physician may not have adequate training or sufficient time in a busy clinic to follow them. The issue of lack of continuity of care is a further challenge, as patients are not bound to a particular practice or practitioner.

Once a set of symptoms has been identified as being allergic, the choice of treatment in LMICs is limited by several factors. The costs involved not only in purchasing appropriate medication and paying the physician, but also the logistical costs of accessing healthcare (for example travel expense), make obtaining something as simple as a nasal spray a major issue for many patients. The lack of appropriately trained physicians, suitable and affordable medications, and the absence of follow-up and support mechanisms, may lead to treatment failure. Cultural issues also play a role. For example, in some societies, female patients may only be seen and treated by a female physician, whereas in others, male children are given preference for receiving treatment over females. Another major taboo in some cultures is that the "western" system of medicine is seen as being "too strong" (i.e. having more side effects). In such situations, patients may seek alternative therapies which could range from home remedies, to herbal or other alternative forms of medicine or spiritual healing.

In a primary care practice in an LMIC where the physician has been trained in the management of allergic diseases and is knowledgeable about the local allergens and their seasons, the ARIA guidelines would be followed – but with modifications to suit local conditions. Such a GP would be conversant with the importance of treating both the upper and lower airways together.[19,20] For example, an antihistamine and an intra-nasal steroid would be selected primarily based on financial affordability and the acceptability to the patient of such a medication. Metered-dose inhalers may be less acceptable than tablets because they are regarded as "addictive", "unsafe", and in some cases "the last resort of treatment". The great stigma associated with the word "steroid" is a major hindrance to intra nasal and inhaled asthma therapy.

Considerable effort, ideally within the context of comprehensive patient education, may be required to convince the patient initially to take the treatment, and then to motivate them to continue taking it.

Preventive measures to prevent the onset[21] and reduce severity are welcomed by patients.[22] Washing the anterior nasal passages with saline or a nasal douche, followed by gargling, is an acceptable form of therapy. This not only helps to reduce the nasal mucus and secretions but allows the intra-nasal steroid to be more effective. Other physical techniques like the use of face masks and the application of physical barriers like vaseline inside the nose may be a useful adjunct.[23]

There may be times when a GP wants to suggest referral to a specialist, especially in cases where surgical intervention is required or the patient is non-responsive to therapy. If a specialist is available close by and is affordable, then a referral is easily possible. However, where a specialist is not available for several hundred miles, the GP is left with few options other than to try alternative forms of therapy like antibiotics (however misguided) or oral steroids, in the hope of providing some relief for the patient...

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PERSPECTIVE

A practical approach to managing asthma and rhinitis

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The young woman who has attended for her asthma review in the above clinical scenario[1] is obviously experiencing sub-optimal asthma control as indicated by her nocturnal and exertional symptoms.[2]

As is the case when any patient attends for review, the Royal College of Physicians' Three Questions[3] or a validated questionnaire such as the Asthma Control Test[4] should be used to assess accurately the current level of asthma control.[5] In this instance[1] the patient is poorly controlled and the clinician has to ascertain the reasons for this. We are told that she has good inhaler technique, is complying with her prescribed medication, and there has been no change in her circumstances. Therefore, other environmental influences, co-morbidities, or diagnoses must be sought.

Important questions include the time of year she is presenting, and her occupation. Although we are told there has

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