

Irrational use of antihistamine medication

A large number of H₁-antihistamines are available in the Indian market. At the last count we identified 27 molecules – azatidine, azelastine, buclizine, cetirizine, chlorpheniramine, cinnarizine, clemastine, cyproheptadine, desloratidine, dexchlorpheniramine, dimethindene, diphenhydramine, doxylamine, ebastine, embramine, fexofenadine, hydroxyzine, ketotifen, levocetirizine, loratidine, luvistine, meclozine, methdilazine, mizolastine, pheniramine, promethazine and triprolidine. A few have been withdrawn such as mebhydroline, astemizole and terfenadine.

Apart from histamine mediated allergic phenomena like allergic rhinitis, acute urticaria and anaphylactic states, H₁ antihistamines in India are put to several other uses:

- Cough & cold, to reduce running nose
- Correction of reduced appetite
- Acute and chronic itching states
- Asthma and chronic obstructive pulmonary disease (COPD)
- Nausea and vomiting, including during pregnancy
- Prevention and treatment of vertigo and motion sickness

However, only a few of these auxiliary uses are supported by documented evidence of efficacy. Take cough and cold for instance. There are innumerable fixed dose combinations that incorporate antihistamines, purportedly to reduce running nose, often in combination with sympathomimetics such as pseudoephedrine or phenylpropanolamine, that reduce nasal congestion. Manufacturers claim that such preparations are 'balanced' with the sedative effect of the antihistamine being cancelled out by the central stimulant effect of the sympathomimetic. Many doctors use these preparations liberally. While some symptomatic relief from decongestion is to be expected, it is doubtful whether the antihistamine contributes to reducing the extent or duration of the rhinorrhea.

An increased appetite is a side effect seen with some of the older sedating antihistamines. This has been put to good use by Indian manufacturers, with preparations of cyproheptadine and buclizine being promoted aggressively as 'tonics' to stimulate appetite and promote weight gain. Children fed such tonics may not experience the beneficial side effect but may suffer drowsiness. It is sad when even educated parents try to resort to the shortcut of tonics to improve their child's weight gain rather than teach them good nutritional practice. More seriously, such tonics may impart a false sense of security when an underlying disorder or illness may be preventing proper weight gain but remains undetected and therefore uncorrected.

Urticarial itching responds to antihistamines, sometimes dramatically. However we have seen high doses of antihistamines (e.g. pheniramine 50 mg thrice daily) or strongly sedating antihistamines (e.g. hydroxyzine) being given in futile attempts to suppress pruritic states such as senile pruritus that is not obviously responding to the antihistamine. Imagine the consequences if an old man, drowsy from the antihistamine, tries to cross a busy road or falls down in his bathroom fracturing the femur neck.

Asthma and COPD exacerbations do not respond to antihistamines, even if triggered by allergen exposure. Oral ketotifen is being used but in most patients its preventive role is equivocal. Nausea in the first trimester of pregnancy is usually mild and does not require treatment. On rare occasions, a short-treatment with an antihistamine (e.g. promethazine) may be required. Cinnarizine has been documented to help in vestibular disorders, including vertigo and motion sickness, but not the new antihistamines.

Admittedly, the newer antihistamines are safer and many of them are practically devoid of sedative effects. They are, however, not cheap, compared to the older antihistamines, and therefore should not be misused for conditions where they are unlikely to be effective. The older antihistamines are cheaper but can be dangerous in individuals who need to be alert for driving or working near moving machinery. Indiscriminate use of antihistamines, as is prevailing in India today, is undesirable and needs to be denounced.

Avijit Hazra & Amitava Sen

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WHO Fellowship Training Program on Essential Drugs and Other Medicines

Background to the program

The concept of essential drugs is as valid today as it was when first promulgated by the World Health Organization [WHO] in October, 1977. The plethora of drugs available in the market and the lack of impartial drug information, coupled with financial and other constraints, makes it difficult for many countries, communities, and health programs to make rational use of drugs. The essential drugs concept and the tools for implementing this provide a way out of the therapeutic jungle. Various countries around the world are trying to implement essential drugs projects as integral part of their national health programs. At the global level such efforts are being coordinated by WHO.

Myanmar is one of the few countries in the world that has implemented the essential drugs program on a nationwide basis, at least in the public sector. Training of doctors and health workers who will implement this program in their respective township and rural localities in the essential drugs concept and its various aspects is therefore a necessity and a priority. In this context, the WHO Country Office in Myanmar nominated five health-care personnel for sending them to India under a WHO fellowship program to obtain training and exposure to the essential drugs program in another developing country.

This team of five delegates were given the brief to spend one month in India, the first half with a NGO organization active in the field of essential drugs and the second with a government organization working in a similar field.

WHO South-East Asia Regional Organization [SEARO], with its headquarters at New Delhi, nominated CDMU to impart training to this delegation from Myanmar on various aspects of essential drugs and rational drug use. The Government of India Regional Drug Store in Calcutta was entrusted with conducting the later half of the program. The delegates remained with CDMU from January 20 to 31, 2003.

Program objectives

At the end of the training the participants were expected to:

- Be familiar with the concept of essential drugs and rational drug use and to be convinced about the utility of these approaches in ensuring equity in access to drugs.
- Be aware of the intricacies of various aspects of the drug management cycle -- namely selection, procurement, distribution and use.
- Be aware of the various mechanisms of drug financing, specially in the context of the challenges posed by globalization.
- Be convinced about the utility of a proper drug management information system and that of a

drug information service as vital components of an essential drugs program.

- Be able to identify the various constraints to rational drug use in a given situation, including the problem of counterfeit drugs, and suggest remedial measures.

Overall they were expected to gain sufficient knowledge and the basic skills for planning, implementing, and managing an essential drugs program in their own geographical location.

Participants

The following were the participants in the training program:

- Dr. Kyaw Thi Ha MBBS, Dip Med Sc [Hospital Administration] Senior Township Medical Officer, Lanmadaw Township, Yangon, Myanmar
- Dr. Kyaw Than MBBS, Township Medical Officer Zigon Township, Bago (West), Myanmar
- Mr. Myint Swe BSc, Health Assistant, Inn Ta Kaw Rural Health Center, Bago Township, Bago, Myanmar
- Mr. Zaw Lwin Oo BSc, Health Assistant, Sukalat Rural Health Center, Daydaye Township, Ayeyarwady, Myanmar
- Ms. Myat Myat Soe BSc, Dip Accounting, Computer Operations Supervisor, Medical Care Division, Ministry of Health, Myanmar

In addition Dr. Asok Kumar Dam, of the Ramakrishna Mission Lokashiksha Parishad, a NGO member partner of CDMU, participated in the program as an independent observer on the request of CDMU administration.

Program schedule and facilitators

The 12 day training program (with one-day break in between) was structured into 35 learning units as follows:

1. Equity in access to drugs – the essential drugs concept
2. The economics of drugs – general overview
3. Pharmaceutical supply system assessment
4. Rational drug use – the concept and tools
5. Drug policy – components & formulation
6. Drug policy – implementation & monitoring
7. Selection of drugs
8. Procurement of drugs
9. A] Investigating drug use – selected drug use indicators
B] Investigating drug use – practical exercise in data collection
10. A] Non-profit essential drug services – the CDMU & SHIS models
B] Acquaintance with a health facility in the NGO sector – including visit to stores
11. Quantifying drug requirement
12. Quality assurance in drug procurement

13. Drug supply strategies – systems for drug financing & distribution
14. Drug supply strategies – decentralization approach
15. Handling a vaccination program – in the clinic and in the field
16. Medical stores management
17. Visit to a medical stores in the public sector
18. Counterfeit drugs and other constraints in implementing rational drug use
19. Good dispensing practice
20. Managing drug supply – setting priorities, decision making & problem solving
21. Managing drug supply – monitoring & evaluation
22. Drug management information systems
23. Drug information service
24. Computers in drug management – basics of computer systems and the benefits of computerization
25. Computers in drug management – drug information retrieval
26. Visit to a private health facility drug store
27. Visit to CDMU drug store
28. Inventory control
29. Presentation of critical evaluation report by individual participants
30. Drug financing and sustainability – financing strategies
31. Drug financing and sustainability – impact of globalization
32. A) Drug financing and sustainability – revolving drug funds [RDFs]
B) Drug financing and sustainability – other issues
33. Regulatory view of essential drugs program
34. Understanding promotional drug literature
35. Project presentation by participants in plenary

A total of 9 facilitators were entrusted with the responsibility of conducting these teaching learning sessions in an interactive fashion, there being two facilitators per session. The facilitators, many of them holding academic posts in universities and teaching institutions, were selected from the CDMU panel of resource persons for training programs and all were experts in their respective domains.

Training kits

In any training program, particularly in intensive programs where facilitators and trainees are unknown to each other beforehand, it is extremely useful to provide a training kit to the participants incorporating the necessary handouts, activity sheets, and reference materials. This not only helps the trainees in preparing for the sessions beforehand but also gives them material to study at leisure after conclusion of the training program so that knowledge and skills can be reinforced later on at their own pace.

The training kits provided for this training program included a range of writing materials, clipboard, 20 hand-outs covering most of the learning units. There were also 5 sets of activity sheets, namely

- Drug use survey activity sheet – prescribing activity data collection form

- Drug use survey activity sheet – dispensing activity data collection form
- Drug information service activity sheet
- Promotional drug information activity sheet
- Medical stores assessment activity sheets

In addition, trainees were provided with books on rational pharmaceutical management, good prescribing and pharmaceutical supply system assessment. A CD-ROM incorporating electronic version of these documents [other than the books], plus a number of useful resources on essential drugs and rational drug use were also provided to the participants.

It is expected that these hand outs, books and the CD-ROM would enable the participants to reinforce their own knowledge in future as well as help them considerably in the event that they themselves have to act as facilitators in training programs in their own sphere of activity.

Highlights of the program

The program was inaugurated at 9:30 AM on January 28, 2003, at the CDMU Documentation Centre in Calcutta. It began with mutual introduction of the participants, CDMU facilitators, staff and administrators. The inaugural function was followed by pre-testing questionnaire which the participants were required to fill up in 45 minutes time.

Every other day began with a 15 min presentation by the participants on the topics discussed on the previous day. This was to be a constant feature during the program. The discussion on 'Rational drug use' focused on the role of the three key players - prescriber, dispenser, consumer - in the drug use cycle and the tools for achieving rational drug use, namely essential drugs list [EDL], formularies, and standard treatment guidelines [STGs]. The participants presented CDMU copies of EDL, formularies, and level-wise STGs used in Myanmar as part of the Myanmar Essential Drugs Project [MEDP]. 'Drug policy' was an extended session where the facilitator outlined the salient aspects of the Indian national drug policy, its implementation and monitoring, and the major recent changes in this regard. The participants in turn expressed their interpretation of the drug policy in Myanmar.

On Day 3 of the program, participants and facilitators traveled to the headquarters of Southern Health Improvement Samity [SHIS], a NGO based at Bhangar, which is about 1½ hours drive from Calcutta. Various aspects of a drug use survey, using indicators developed by WHO and the International Network on Rational Use of Drugs [INRUD] was discussed followed by a practical survey exercise using actual prescriptions written by SHIS doctors. A visit to the medical stores of the SHIS TB hospital, which is very actively involved in the tuberculosis control program through the DOTS strategy was extremely rewarding as it provided an opportunity to discuss



The delegates from Myanmar with CDMU Secretary and facilitators on Day 3.



The participants engrossed in a group task on Drug Information Service on Day 7.

the national tuberculosis control program of India as a model control program for an infectious disease of major public health importance.

Post-lunch on Day 5 the team visited the medical stores of Employees State Insurance Hospital & Occupational Diseases Centre at Joka, Calcutta. This was a fairly large store and the hospital administration very courteously allowed the participants and the facilitators to visit all parts of the store as well as some of the wards in the hospital. The first group activity on evaluating medical stores was conducted using the activity sheets already provided to the participants.

Day 8 was reserved for visit to two medical stores - that of Mission of Mercy Hospital & Research Centre in Calcutta, which is a 155-bed private sector hospital also running various community health programs, in the morning, followed by CDMU's own medical stores at its Head Office at Entally, also in Calcutta. The participants were impressed by the fully computerized operations at the medical stores of Mission of Mercy Hospital and the stores-in-charge graciously demonstrated various aspects of the system. The computerized tendering system at the CDMU stores was also of interest to the participants, although they rightly noted the absence of computerization in inventory control. Group activity on medical stores assessment was done at both venues.

Day 9 saw a change in venue to the Ramakrishna Mission Seva Pratishthan Hospital, which is a large 500 plus-bed NGO Hospital in Calcutta. The day was spent in comprehending various mechanisms of drug financing, including the strategy of revolving drug funds [RDFs]. The latter session was of major interest to the participants as the system of drug financing in their own set-up basically used the RDF strategy. Some time was spent in discussing the potential impact of globalization on drug prices in developing countries.

Understanding promotion literature turned out to be a very lively session on Day 10. The facilitators for the session procured actual promotional material of some reputed pharmaceutical companies which were used as examples to good effect. A group activity on the various modes of drug promotion in Myanmar was conducted.

The concluding day's venue was Hotel Park Palace in Calcutta. Dr. P. K. Guha, Director of the Regional Drug Store of Government of India, in Calcutta, who was scheduled to take over the responsibility of the delegates from CDMU, interacted with the participants, CDMU facilitators and dignitaries. The pre-test questionnaire was once again administered as a post-test. An added solemnity was lent to the day's proceedings by the presence of government dignitaries till lunchtime. Thereafter, the delegates presented their action plan and their report on the training program. The pleasant formality of presenting certificates to the participants was completed by Mr. D. P. Poddar, Executive Secretary, West Bengal Voluntary Health Association and Advisor to CDMU, followed by a traditional Indian gift to the participants by Major General Dr. S. B. D. Chowdhury, CDMU's President. With the President's concluding address, all that remained before exchanging good-byes was posing for the album.

Conclusion

Despite a few shortcomings, which included the language barrier, the WHO Fellowship Training Program on Essential Drugs and Other Medicines was a success and presented a very useful learning opportunity for not only the participants but also for CDMU facilitators, staff as well as administrators. The ultimate success would, however, be determined by the ability of the participants to utilize the knowledge and the skills gained during the program in furthering the cause of MEDP. The action taken report from the participants is therefore eagerly awaited.

We would be failing in our duty, if we do not thank CDMU's advisors, facilitators, staff, and the many other individuals who contributed ideas, time and effort to shape the program. Finally, we reiterate that the current experience has given CDMU the confidence to shoulder similar responsibility in future, furthering the noble cause of rational drug use through awareness building and the imparting of skills.

Allergic rhinitis

Avijit Hazra

Allergic rhinitis [AR] is a very common allergic condition affecting people of all ages. An estimated 10-20% of the population suffers from some degree of allergic symptoms related to the nose. Worldwide, there is a rising prevalence of AR in children as well as in adults. Although the incidence of AR peaks during young adults years, it is also an important health concern in older adults.

AR is characterized by sneezing, a running and stuffy nose, itchy and watery eyes, and a burning sensation of the palate and throat, triggered by exposure to the sensitizing allergen. The nasal stuffiness is due to mucosal vasodilation and edema. The rhinorrhea is due to enhanced activity of the mucosal glandular elements. Mucosal irritation provokes paroxysms of sneezing. The nasal mucosa of patients with allergic rhinitis presents a swollen, pale blue appearance but becomes erythematous and indurated with chronic exposure. Polyps may develop in the long run. If the rhinitis becomes chronic, a constant post-nasal drip may lead to a granular inflammation of the posterior pharyngeal wall and a cobblestone appearance. The nasal secretion is clear and watery unless secondary infection occurs. Eosinophils are the predominant cellular elements in the secreted fluid.

Children with rhinitis may show learning impairment related to annoying symptoms, daytime fatigue from sleep loss, as well as impaired quality of life. Rhinitis may also lead to reduced smell sensation, infection of the sinuses, dysfunction of the Eustachian tubes [resulting in temporary hearing loss], secretory otitis media, aggravation of asthma and changes in the formation of mouth such as a high-arched palate. AR, if trivialized and undertreated in adults, may be a source of annoyance and frustration, reduced work productivity and increased predisposition to complications like sinusitis and sleep disturbances. There is also greater likelihood of poor control of symptoms in those with concomitant asthma.

Causes

Rhinitis is inflammation of the nasal mucous membranes. There are numerous causes of rhinitis as listed in Table 1. An allergic response that provokes rhinitis results from exposure to an allergen that triggers an IgE antibody mediated hypersensitivity response (Type I hypersensitivity) in presensitized effector cells, such as mast cells and basophils, in the mucosal lining of the nose. In seasonal allergic rhinitis (hay fever) the common triggers are inhaled allergens such as molds, pollen, grass, weeds and flowers. Household dust, dust mites, feather, insect and insect droppings, and animal dander are associated with perennial allergic rhinitis which shows no seasonal variation. Contrary to popular belief, foods like wheat, milk, eggs and nuts are associated much less commonly with perennial allergic rhinitis. The allergic response includes an early and a late phase. The

early phase occurs promptly and spans approximately one hour. The late phase generally begins in 3 to 6 hours, peaks at 6 to 8 hours and subsides in 12 to 24 hours. Early phase symptoms include sneezing, itching and clear rhinorrhea. Symptoms in the late phase are similar, but tend to be characterized by more prominent congestion. Whereas histamines appears to be the major chemical mediator of the early phase, a number of other mediators are involved in the late phase, including leukotrienes. The release of the latter is possibly of greater importance than histamine for nasal congestion.

Table 1. Classification of rhinitis

<p>Allergic</p> <ul style="list-style-type: none"> • Occupational • Seasonal • Perennial <p>Infectious</p> <ul style="list-style-type: none"> • Acute viral • Acute bacterial • Chronic specific (bacterial or fungal) • Chronic non-specific (associated with immune deficiency) <p>Perennial non-allergic</p> <ul style="list-style-type: none"> • Idiopathic [vasomotor rhinitis] • Non-allergic rhinitis with eosinophilia syndrome [NARES] 	<p>Miscellaneous</p> <ul style="list-style-type: none"> • Hormonal changes - pregnancy, menopause, hypothyroidism • Drug-induced - aspirin, antihypertensives, prolonged use of topical decongestants (rhinitis medicamentosa) • Mechanical - hypertrophied turbinates, deviated nasal septum, nasal foreign body, nasal polyps
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A family history of allergies is the greatest known risk factor for the condition. AR is also associated with other common allergic conditions including allergic conjunctivitis, allergic asthma and atopic dermatitis. About 30% patients of eczema and 25-50% patients with asthma have allergic rhinitis. These conditions have been termed as atopic diseases and patients who have them are said to be atopic.

Diagnosis

Recognition of individuals with allergic rhinitis requires a careful history of symptoms, the home, workplace and leisure environments, and clinical examination. A positive history of characteristic symptoms occurring on exposure to known allergens is seldom available. However, a suspicion can be supported by demonstration of IgE mediated response to inhaled allergens by skin or in-vitro testing. Skin testing by intradermal or skin prick tests is sensitive, less costly and entails no delay in obtaining results. Individuals who have skin disorders or cannot suspend antiallergy medications, so that skin testing would not be possible, are candidates for in-vitro testing to detect elevated titers of specific IgE to inhaled allergens.

Management of allergic rhinitis

Avoiding known allergens

This is much easier said than done and will not help the many patients in whom definite allergen triggers have not been identified. Those with dust or fume allergy should avoid dry dusty environments and exposure to cigarette smoke, smog and irritant fumes. If animal dander is responsible, removal of pets should be encouraged but can be a difficult proposition. Measures to reduce exposure to dust mites include encasement of mattresses and pillows in impermeable covers, washing bedding weekly in hot water and removal of carpets in favor of tiled or hardwood flooring. Good humidity-controlled air-conditioning can decrease concentration of pollens, molds, dust mites and other potential allergens in indoor air as such can be considered for affluent homes. However, the exposure may continue in the workplace. Exclusion of particular food items seldom helps as ingested allergens are usually not responsible. As a last resort, change of environment (usually to a colder and drier place) may benefit some individuals by reducing allergen concentration in the surroundings.

Topical decongestants

As avoidance measures will likely be incomplete and exposure to relevant allergens will continue, virtually all patients with AR will benefit from the use of regular medication. Figure 1 demonstrates the correct use of topical preparations.

Topical nasal decongestants are widely used, often without prescription. These are sympathomimetic agents that exert their effect by vasoconstriction of the mucosal blood vessels which in turn reduces local edema. Ephedrine is one of the oldest sympathomimetic preparations and can give relief for several hours. Phenylephrine is another. The imidazolines, like naphazoline, oxymetazoline and xylometazoline, are more potent and act for a longer duration. All sympathomimetics, particularly naphazoline, can cause local stinging, and should be used with caution in hypertension, heart disease and hyperthyroidism. They are contraindicated in pregnancy and glaucoma.

The therapeutic utility of topical sympathomimetics is limited by their tendency to give rise to a rebound congestion on withdrawal, due to a secondary vasodilation. This tempts continued use of the decongestant, leading to a vicious cycle. Eventually the drug itself tends to sustain the rhinitis symptoms – a condition called rhinitis medicamentosa. The more potent preparations cause stronger rebound effects.

Other topical medications

Simple sodium chloride 0.9% given as nasal drops may relieve nasal congestion by helping to liquefy secretions. It is the only agent recommended in newborn babies and infants less than 3 months old. Topical sodium cromoglicate, acting as a mast cell stabilizer to inhibit the release of allergic mediators,

Figure 1. Using nasal drops and sprays

Using drops

1. Blow the nose.
2. Sit down and tilt head backward strongly or lie down with a pillow under the shoulders; keep head straight.
3. Insert the dropper one centimeter into the nostril.
4. Apply the amount of drops prescribed.
5. Immediately afterward tilt head forward strongly (head between knees).
6. Sit up after a few seconds, the drops will then drip into the pharynx.
7. Repeat the procedure for the other nostril, if necessary.
8. Rinse the dropper with boiled water.

Using sprays

1. Blow the nose.
2. Sit with the head slightly tilted forward.
3. Shake the spray.
4. Insert the tip in one nostril.
5. Close the other nostril and mouth.
6. Spray by squeezing the vial and sniff slowly.
7. Remove the tip from the nose and bend the head forward strongly (head between the knees).
8. Sit up after a few seconds; the spray will drip down the pharynx.
9. Breathe through the mouth.
10. Repeat the procedure for the other nostril, if necessary.
11. Rinse the tip with boiled water.



Inability to get adequate relief from topical medicaments in allergic rhinitis and other conditions associated with nasal congestion may be due to failure to use the medication properly rather than inadequate potency. The figure illustrates the correct method of using nasal drops and sprays. It has been adapted from the publication: Guide to good prescribing: A practical manual. Geneva: World Health Organization, 1994.

has a well established role. Though less effective than topical corticosteroids, it is often the first choice in children. Mild local irritation and transient bronchospasm may occur. Topical antihistamines are also less effective than topical corticosteroids, but probably more effective than topical cromoglicate. Azelastine is available as a nasal spray in India and may be used in children over 5

years. It is safe but may cause local irritation and a bitter aftertaste if applied incorrectly. Levocabastine is not yet available.

Corticosteroids can abolish all symptoms of AR. With regular use they inhibit both the immediate and late-phase responses. They have vasoconstrictor as well as anti-inflammatory effects, including inhibition of mediator release and inflammatory cell chemotaxis. The maximal therapeutic effect is however not seen before 3 to 5 days. Topical corticosteroids (budesonide, flunisolide and fluticasone propionate are available in India) are safer than systemic steroids in recommended doses, but should be reserved for persistent symptoms not adequately responding to other topical medications and to oral antihistamines. In seasonal AR treatment should begin two weeks before the season commences. In perennial AR, treatment may need to be continued unbroken for years. Short term use (e.g. 3 months) of steroid nasal drops also promotes shrinkage of nasal polyps, the reduction can then be maintained with a steroid nasal spray. Local adverse reactions include local stinging, dryness, smell and taste disturbance. Ulceration, septal perforation and glaucoma occur rarely. Paradoxically, hypersensitivity to the corticosteroid, provoking bronchospasm, has also been reported. The risk of systemic reactions is greater in children, with high doses and prolonged use, and use of nasal drops rather than sprays. Growth should be monitored in young children. Topical corticosteroids should be avoided in the presence of untreated nasal infection, following nasal surgery (till healing has occurred) and in pulmonary tuberculosis.

The addition of topical ipratropium bromide can reduce watery rhinorrhea if allergic rhinitis is accompanied by a vasomotor component as well. However, it is not available in India. There is no evidence that topical antimicrobials or antimicrobial plus corticosteroid combinations afford any benefit in allergic rhinitis unless secondary infection is present.

Systemic medications

Oral H₁ antihistamines are the mainstay of oral treatment in AR. These drugs antagonize the action of histamine by blocking receptor sites on target cells. Although conventional first generation antihistamines are effective they can be associated with drowsiness and central nervous system impairment. Older patients are prone to the psychomotor impairment caused by antihistamines and are at greater risk of complications such as fractures and subdural hematomas from falls. Use of less sedating and non-sedating second generation antihistamines (e.g. cetirizine, desloratidine, ebastine, fexofenadine, loratidine, levocetirizine) are preferred.

Systemic decongestants like pseudoephedrine and phenylpropanolamine are also used, sometimes as fixed dose combinations with antihistamines. They offer little additional benefit over topical use, and their sympathomimetic effects can be dangerous in

patients with hypertension and heart disease. Further, oral decongestants primarily reduce nasal stuffiness and may attenuate drainage but do not affect sneezing or itching.

Very disabling symptoms occasionally justify the use of systemic corticosteroids (e.g. prednisolone) for short periods. They may also be used at the beginning of treatment with a corticosteroid spray to relieve severe mucosal edema and allow the spray to penetrate into the nasal cavity. There may be transient exacerbation of symptoms when switching from a systemic to a topical steroid.

Allergen immunotherapy

Currently this has a minor role. It entails parenteral administration of allergens in small incremental doses for the purpose of inducing immune system changes (production of blocking IgG antibodies that would prevent binding of allergens to IgE) so as to blunt host response with natural exposure to these allergens. A trial of allergen immunotherapy can be considered for patients with complications such as sinusitis or otitis or when avoidance measures combined with regular pharmacotherapy lack sufficient efficacy. Allergen immunotherapy should be individualized and is best left to specialists. The series of injections is time consuming and is associated with a risk of anaphylaxis. The therapeutic utility is better documented in younger individuals than in the elderly. Efforts are on to produce more potent desensitizing vaccines.

Surgical intervention

In the small minority of patients who cannot be given relief by medicaments, resection or submucosal diathermy of the nasal turbinates can improve nasal obstruction. However, rhinorrhea and sneezing are unlikely to be affected by surgical intervention. Surgery can be of considerable benefit if mechanical factors like hypertrophied turbinates, deviated nasal septum, nasal foreign body or nasal polyps are aggravating symptoms.

Vasomotor rhinitis

Vasomotor rhinitis is characterized by symptoms of allergic rhinitis but the subject is not positive on allergy testing. Patients may relate the onset of symptoms to changes in ambient temperature and humidity, inhalation of ammonia, tobacco, perfumes, paints or other irritants, consumption of alcohol, stress or sexual arousal. The pathophysiology is believed to involve an imbalance between sympathetic and parasympathetic nerve stimulation of the nasal mucosa. A predominant parasympathetic response leads to increased vascularity and secretory activity of the mucosa manifesting as stuffy, running nose and frequent sneezing. As with allergic rhinitis, the mainstay of treatment is medical. Topical decongestants may be tried keeping in mind that rhinitis medicamentosa may result from prolonged or excessive use. Ipratropium bromide nasal spray may benefit considerably by blocking cholinergic overactivity. In severe cases, surgical intervention becomes necessary but symptoms may still recur.

New drugs approved by Drugs Controller General of India during the period July to December, 2002

Name of the drug	Therapeutic category	Name of the drug	Therapeutic category
Acamprosate calcium	Anti-addiction [For alcohol abuse]	Nebivolol	Antihypertensive
S(-)-Amlodipine	Antihypertensive	Parecoxib [Inj]	Analgesic
Aztreonam [Inj]	Antibacterial	Phosphenytoin sodium	Antiepileptic
Balsalazide disodium	For ulcerative colitis	Poractant alfa	Pulmonary surfactant [For respiratory distress in preterm infants]
Butorphanol [Inj]	Analgesic [Opioid]	Pygenum africanum	Plant extract [For benign prostatic hyperplasia]
Cabergoline	Hormone analog / antagonist	Quinapril	Antihypertensive
Cefepime	Antibacterial	Reboxetine	Antidepressant
Cefetamet pivoxil	Antibacterial	Sirolimus	Immunosuppressant
Drotrecogin alfa [Inj]	Recombinant activated protein C [For severe sepsis]	Tegaserod	For irritable bowel syndrome
Gemtuzumab [Inj]	Anticancer [For acute myeloid leukemia]	Telmisartan	Antihypertensive [Angiotensin receptor antagonist]
Levocetirizine	Antiallergic	Thalidomide	Antileprotic
Meglumine gadoterate [Inj]	Contrast medium	Valacyclovir	Antiviral
Metaxalone [Inj]	Muscle relaxant	Valdecoxib	Analgesic

Source: Office of State Drugs Control – West Bengal

It is to be noted that this list is exclusive of new fixed dose combinations and products approved for veterinary use. Further, approval of a new drug does not necessarily result in immediate introduction of the corresponding formulation in the Indian pharmaceutical market, whether imported or indigenously manufactured. Even if available, prescribers should exercise due caution in the use of these drugs for obvious reasons, particularly for those drugs which are new in the global pharmaceutical market too.

Recent additions to our library

- **Managing Complications In Pregnancy and Childbirth: A Guide for Midwives and Doctors.** Geneva: World Health Organization, Department of Reproductive Health and Research, 2003. [A publication under the Integrated Management of Pregnancy and Childbirth program].
- **McFadyen JE, editor. International Drug Price Indicator Guide - 2002 Edition.** Boston: management Sciences for Health , 2002.
- **CD-ROM: 25 Years Of Essential Medicines.** Geneva: World Health Organization, Department of Essential Drugs and Medicines Policy, 2003. [WHO/EDM/PAR/2003.1]

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