ANTI-ASTHMA DRUGS

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Q. Why are there so many types of anti-asthma drugs?

A. Asthma varies in frequency and severity. The causes are varied and many. In order to fulfil different needs, different drugs have been developed and are available.

Q. What are the major types of anti-asthma drugs?

A. While the pharmaceutical companies make hundreds of brand-name drugs, there are only a few major types of anti-asthma drugs that are now used. There are :

Bronchodilators:

a. Xanthines:	Aminophylline
	Deriphylline
b. Beta-adrenergics:	Salbutamol
	Salmeterol
	Terbutaline
	Bambuterol
	Formoterol.

Mast Cell Stabalizers:

Ketotifen.

Corticosteroide:	
a. Inhaled:	Beclamethasone
	Budesonide
	Fluticasone
	Cyclesonide
b. Oral:	Prednisoline
	Betamethasone
	Dexamethasone
Anticholinergics	Ipratropium
	Tiotropium
Leukotreine antagonists:	
	Montelenkast

Q. What are xanthines and how do they act?

A. It has been known since ages that decoctions of some herbs are helpful in cases of asthma. These herbs include stramonium, labelia, dhatura. Scientific analysis of these herbs has revealed that they contain a variety of active principles that all come under the class xanthines.

Xanthines reverse the airway obstruction in cases of asthma, providing thereby a quick relief. It is for this reason that the xanthines are called bronchodilators.

Theophylline, deriphylline and aminophylline are the generic types of drugs that belong to the xanthine class. There are dozens of brand names for each of them. They are sometimes combined with other anti-asthma medications and given by mouth; in severe attacks, injectable are also given.

Q. How long does the effect of a theophylline tablet last?

A. The effectiveness of theophylline or other xanthines lasts from 4 to 8 hours. Therefore the drug has to be taken several times a day at regular intervals in order to control asthma. Since children metabolize or breakdown the drug faster than do adults, taking the medicine on time is important.

Special long-acting forms are available that may make it necessary to take the drug fewer times each day. Theophylline and other xanthines do not appear to lose their effectiveness with long term use.

Q. What are the side effects of theophylline or deriphylline?

A. They do not have serious long-term side effects. However, there can be acute side effects that are produced when the dosage is too high. These

involve the stomach and the nervous system. The effects on the stomach include nausea, vomiting, loss of appetite and stomach aches. The effects on the nervous system include irritability, dizziness and changes in personality. When any of these symptoms occur, side-effects from the xanthine drugs should be suspected.

Q. How can the side effects on stomach be minimized?

A. If irritation in the stomach or intestines occurs, it may be minimized by taking theophylline or other xanthine drugs with milk, or other foods.

Q. What are adrenergic drugs and how do they act?

A. These drugs act upon particular sites called receptors on nerve cells of the "adrenergic" nervous system (commonly know as sympathetic nervous system). There are three main types of receptor sites called alpha, beta-1, and beta-2. These receptor sites are located in the airways, but they are also found in other parts of the body as well including inside the heart muscle and muscles in the arms and legs.

Some adrenegic drugs act on all three types of receptor sites but others are more selective.

Q. Which are the most effective adrenergic drugs?

A. The most effective bronchodilator drugs are the ones that primarily influence the beta-2 receptors present only in the bronchial airways. They cause fewer side effects. Since they dilate the airways, they are called bronchodilators. Examples are salbutamol, terbutaline. They are available in tablet form and as aerosols in metered-dose inhalers and nebulizers.

Q. What are adrenocorticoids and how do they act?

A. Adrenocorticoids, commonly called steroids, are related to cortisol, the hormone that is produced by the "cortex" or outer part of the adrenal gland. A number of closely-related synthetic compounds are available and used. These include hydrocortisone, prednisone, prednisolone, betamethasone, triamcinolone and dexamethasone. They are known by a variety of brand names.

The steroids are strong anti-asthma drugs. They decrease inflammation of the airways and thereby reduce frequency and intensity of the attacks.

Q. What are the side-effects of steroids?

A. The side effects which arise with steroid treatment depend very much on the level of the dose and how long the steroid is taken. Major side effects take months to develop. Therefore, treatment for a few days or a few weeks to help a patient over an acute flare-up is a safe procedure that rarely causes problems.

Q. Can the side-effects be minimized?

A. If steroids are to be used on a regular basis, the chance of developing side effects increases, if the drug is taken several times a day. Side effects are less if the entire dose is taken once a day, preferably in the morning. The incidence of side effects can often be reduced still further if steroids are given every other day.

Q. What is the role of inhaled steroids in asthma?

A. In recent years, several types of steroids have become available in the form of an inhaler. These are sprayed in much smaller quantities and directly into the lungs where they exert most of their action. This means of delivery, puts the drugs exactly where it is going to work and avoids many of the side effects that occur when steroids are taken by mouth.

Q. How can some of the commonly used anti-asthma drugs be classified?

Form of	Type of Drug	Generic Name	Brand Name Drug
Tablet	Xanthine	Theophyline/ Deriphyline	Phylobid, Theobid, Theolong, Theopa, Deriphyline, Deriphyfline Retard
	Beta-adrener -gics	Salbutamol/ Terbutalin	Asthalin, Asthalin-SA Bronkotab, Bricanyl
	Steroids	Prednisone/	Deltacortril, Hostacortil-H, Wysolone
		Betamethasone	Betnelan, Betacortil, Walacort
		Triamcinolone	Kenacort, Ledercort
	Drug Combina-nations Xanthine + Beta adrenergic	Theophyllin+ Salbutamol	Bronkoplus, Theosthalin-SR
Aerosols	Beta-adrenergic	Salbutamol	Asthalin, SOS
		Terbutalin	Bricanyl
	Cromolyn	Cromolyn	Cromal-5, Fintal
	Steroids	Beclomethasne	Beclate-50,
		Budesonide	Beclate-200
		Fluticasone	Pulmicort, Esiflo
Injectables	Xanthine	Deriphyline	Deriphyline
	Beta-adrenergic	Terbutalin	Bricanyl
	Steroids	Hydrocortisone	Wycort, Lycortin-S
		Betamethasone	Betnesol
		Dexamethasone	Decadron, Wymesone.

Available Publications

1.	Managing Asthma	Rs. 30.00
2.	Asthma Attack : It Can be Prevented	Rs. 30.00
3.	Asthma : Facts and Fiction	Rs. 20.00
4.	Asthma Triggers: How to Avoid Them	Rs. 20.00
5.	Asthma Attack : Early Signs	Rs. 20.00
6.	Anti-Asthma Drugs : Their Proper Use	Rs. 20.00
7.	Metered-Dose Inhalers : Use in Asthma	Rs. 20.00
8.	Nebulizers : Use in Asthma	Rs. 20.00
9.	Space Inhalers : Use in Asthma	Rs. 20.00
10.	Peak-Flow Meter : Use in Asthma	Rs. 20.00
11.	House Dust Allergy	Rs. 20.00
12.	Food Allergy	Rs. 20.00
13.	Urticaria	Rs. 20.00
14.	Allergic Rhinitis (Sneezing Fits)	Rs. 20.00