

INTERNAL MEDICINE

MEDICAL EXAMINATION MANUAL

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Manuel M. Villaverde, M.D.

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VAN NOSTRAND REINHOLD COMPANY

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Manuel M. Villaverde, M.D.

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1. Respiratory Diseases

Systemic Diseases with Nasopharyngeal Symptoms

Common cold symptoms may be the beginning of:

- Influenza (epidemics, serologic confirmation).
- Eruptive diseases (followed by the characteristic rash).
- Nasal diphtheria, and farcy or glanders.

Symptoms of rhinitis may:

- Be the beginning of any of the above.
- Differentiate from sinusitis.

Pharyngolaryngeal symptomatology may indicate the beginning of:

- Influenza (fever, aches, weakness, epidemic outburst).
- Adenoviral infections (young children, winter epidemics).
- Pharyngoconjunctival fever (summer, swimmers).
- Acute respiratory disease (military recruits).
- Eruptive diseases (measles, scarlet fever — followed by the characteristic rash).
- Rheumatic fever (angina plus one or more of the following symptoms: joint pains, cardiac or neurologic involvement, skin reactions).
- Diphtheria (tonsils and pharynx are covered with a grayish membrane that leaves a bleeding surface when detached).
- Agranulocytosis (starts abruptly with angina, local ulcers, septic fever, and regional adenopathy, mostly in patients under treatment with certain drugs).
- Acute leukemia (similar to the former, with dermic symptoms, such as petechiae, or other forms of bleeding).
- Herpangina (picture of a common angina together with herpetic vesicles).
- Zoster angina (occurs only on one side of the pharynx).

Common Cold

The characteristic symptoms of acute rhinitis, common cold, are:

- Nasal discomfort (burning, itching, fullness, and secretion).
- Sneezing, shortly followed by mucoid and then purulent discharge.
- Later on, signs of obstruction, dryness, hoarseness, and coughing.

At physical examination it will be noted:

- That the mucosae of the nose are red and swollen.

What are the suggested traits to differentiate it from influenza?

- The symptomatology is milder in common cold.
- There is not an epidemic of influenza going on.
- Serologic confirmation may be performed, if needed.
- What is the suggested treatment for the common cold?
- Only symptomatic treatment is advisable.

Allergic Rhinitis

The symptoms of allergic rhinitis compare with those of common rhinitis as follows:

- | | |
|--|---|
| In allergic rhinitis there are: | In common rhinitis: |
| paroxysmal attacks of evident sneezing; | sneezing is more or less violent, but it is not paroxysmal; |
| profuse, watery discharge; | discharge is mucoid or purulent; |
| conjunctival itching, burning, and lachrimation. | very seldom is there a conjunctival reaction. |

Other frequent findings in allergic rhinitis:

- There may be nasal congestion, usually appearing boggy and pale blue.
- Red and swollen conjunctivae are not rare.
- Large amounts of eosinophils are found in secretions.
- Not rarely an allergen is the known cause of the disease.

Antihistamines are given:

- At the beginning of the season, but they fail in 20-40% of cases.

Corticosteroids:

- Are advisable only in severe cases, when antihistaminics of other similar measures do not work adequately.
- Have to be discontinued as soon as possible.

Desensitization to known allergens may work:

- In some cases, not all, when given before the "season."

Atrophic Rhinitis

The outstanding symptom in atrophic rhinitis is:

- The extreme nasal fetor (ozena).

What other symptoms and signs will call attention to this disease?

- Progressive atrophy of the mucosae of the nose.
- Excessive crust formation.

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Obstructed nasal breathing.
Dryness and irritation of the nose.
Anosmia or disturbed sense of smell.

Rhinoscopy will show:

Ample space within the nose (there may be atrophic bones).
Excessive crust formation.
Abundant scabs and pus adherent to the mucosae.
A glazed, dry mucosa.

The best treatment should be:

Frequent irrigations with hot saline and bioarboñate (a gentle flow to avoid entrance of the fluid into the ear).

Sinusitis

What are the characters of fever in sinusitis of the acute type?

May vary from mild to severe, usually according to the nature of the disease.

May be accompanied by chills, malaise, and headache.

What are the characteristics of the headache in acute sinusitis?

Worse during the day, and subsides during the evening.
Increases together with the sinus pain in certain positions of the head that augment pressure over the sinus.

Accompanies facial pain also.

What other pains are felt in acute sinusitis?

Besides the above-mentioned headache, facial and sinus pain, there are also tenderness within the nose, sore throat, tooth pain, pain when moving the eyes, pain on the roof of the orbit.

The pain in the nose is accompanied by swelling and obstruction.

The sore throat is usually due to the purulent nasal discharge (postnasal drip), and is usually accompanied by coughing.

The teeth hurt (a feeling of long teeth) in maxillary sinusitis.

In acute ethmoiditis the pain is felt behind the eyes and during eye motion.

In frontal sinusitis the pain is felt in the roof of the orbit.

Is pain as severe in chronic sinusitis?

There is no pain in most cases.

What are, then, the symptoms of chronic sinusitis?

A mild postnasal discharge, or profuse purulent discharge.

Nasal obstruction.

Peculiar odor of secretions (like a musty odor).

Nonproductive cough.

Mention also other, less common symptoms of sinusitis:

Vertigo, anosmia, photophobia, generalized pains, and periorbital edema. Other symptoms may indicate a complication.

The essentials of treatment consist of:

Adequate drainage of the affected sinus.

Adequate use of specific antibiotics.

Cautious help from vasoconstrictors.

Epistaxis

Where can the blood be seen in cases of epistaxis?

Obviously, from the anterior nares.

Postnasal drip of blood, either seen or, if unnoticed at the beginning, when the patient presents hematemesis.

When is epistaxis noted more easily?

External trauma to the nose (nose-picking, forceful blowing of the nose, or more obvious injuries).

Nasal lesions, such as polyps, tumors, etc.

Blood dyscrasias, hypertension, or other causes of congestion.

Certain infectious diseases (rheumatic fever).

What procedures are to be followed in cases of epistaxis?

Stop bleeding as soon as possible; keep the patient in a sitting position, and press over the area (bleeding stops in many cases); if needed, pack the nose.

Use the specific measure in each case.

Pharyngitis

How can you evaluate fever and sore throat to diagnose pharyngitis?

Fever varies from mild to a more severe type, at times with chills, usually falling in a very few days.

The sore throat also shows dryness, together with thick, sticky mucus, dysphagia, hoarseness, and cervical lymphadenopathy in many cases.

What signs can you see accompanying the above symptoms?

The pharynx is red, mildly swollen; it appears dry, but with thick, sticky mucus, and in some cases with a membrane also present (more frequently in streptococcal pharyngitis, Vincent's angina, diphtheria).

Lymphadenopathy is not rare.

Some stiffness of the neck may be present

When do you think of chronic pharyngitis?

When coughing accompanies dryness with thick mucus.

When there are frequent bouts of increased symptomatology together with some soreness of the throat.

What do you see on examination of the pharynx in chronic pharyngitis?

Erythema, edema, and frequently an associated follicular enlargement.

An easily bleeding mucosa.

A thick, tenacious exudate present at times.

Atrophic signs of a glazed mucosa with crust formation.

Treatment must include:

Symptomatic care, with rest and nonirritating irrigations.

Antibiotics whenever needed.

Removal of chronic crusts with saline; and avoidance of all irritating causes of chronic cases.

Tonsillitis

What is the essential feature in acute tonsillitis?

The presence of very painful, red, swollen tonsils with pus and exudate and more or less enlarged crypts, and notable erythematous reactions of the pillars and the rest of the pharyngeal wall.

What is the general syndrome of acute tonsillitis?

Sudden onset of fever, with chills, sore throat, malaise, headache, and anorexia.

Cervical, painful lymphadenopathy; possibly stiffness of neck.

What complications may be found with acute tonsillitis?

Terminal chronic tonsillitis.

Otitis, sinusitis, nephritis, osteomyelitis, rheumatic fever, pneumonia.

What do you expect to find in chronic tonsillitis?

Recurrent sore throat, nasal discharge, cervical lymphadenopathy, persistent dull hyperemia of tonsils, mild edema and scarring, abnormal secretions of the crypts, cough, and bad breath.

How local relief of pain can be obtained:

By frequent gargles or irrigations with nonirritating solutions, together with analgesics.

How can you treat the causative infection?

With the specific antibiotic, if known.

What is the best treatment for chronic tonsillitis?

Operative procedure, in most instances.

Peritonsillar Abscess (Quinsy)

When do you consider the occurrence of peritonsillar abscess?

When suddenly one side of a tonsillitis case becomes more severe, dysphagia becomes acute, trismus may be noted, and the breaking of the infection through the tonsillar capsule is evident because it pushes both tonsil and pillar toward the midline.

What other symptoms may be present?

Swelling of the soft palate.

Displacement of the uvula.

Fluctuation that occurs from 3 to 5 days.

How peritonsillar abscess is treated:

Incise and drain the abscess.

Use the adequate antibiotic.

Do not allow closing of the drained abscess.

Perform tonsillectomy after subsidence of symptoms to prevent recurrences.

Ludwig's Angina

How do you diagnose this cellulitic or abscess formation of the floor of the mouth?

There is marked inflammation of the mouth.

The tongue is pushed upwards (to the roof of the mouth).

The movements of the tongue are sharply limited and painful.

There may be an obstruction of the airways.

Not rarely the infection spreads to the neck.

How this serious infection can be treated:

Very large doses of antibiotics are needed.

If there is abscess formation, incise and drain under local anesthesia.

Be prepared for a tracheostomy.

Retropharyngeal Abscess

When you should expect this to occur;

When the patient is very young.

When a suppurative lymph node infection follows a tonsillar, nasal, or sinus infection.

When fever develops, with difficulties in swallowing and breathing.

When the posterior pharyngeal wall protrudes and is tender.

What will you do in these cases?

Use antibiotics and hydration.

If fluctuation occurs, incise and drain (Trendelenburg position).

Be prepared for tracheostomy.

Parapharyngeal Abscess

What are the symptoms and signs of parapharyngeal abscesses?

Fever and other evidence of sepsis.

Bulging of one of the lateral pharyngeal walls.

Trismus.

Dilated veins noted in neck and scalp.

Later development of brawny swelling and redness in the neck, below the angle of the mandible.

General rules for treatment:

Administer antibiotics in large doses.

Provide hydration, and incision for drainage (beware of large vessels!).

Be prepared for tracheostomy.

Tuberculous Ulcer in Oral Cavity

When ulcers are to be thought of tuberculous origin:

Generally they grow larger.

There is considerable induration.

They are undermined and quite painful.

Lymphadenopathy is usually absent.

They are associated with pulmonary tuberculosis and frequently preceded by small circumscribed submucosal nodules.

Laryngitis

What is the outstanding symptom of acute laryngitis?

Hoarseness, which may lead to aphonia.

What other symptoms usually accompany hoarseness?

There may be a fever syndrome.

There may be dysphagia, pain, and cough.

If edema is marked, there will be stridor and dyspnea.

Laryngoscope examination will disclose:

There is inflammation and redness of the mucosa.

There is more or less marked edema, with or without exudate.

Inflammation may extend into the bronchi.

There may be limited vocal cord movements.

There may be a membrane, in which case suspect diphtheria.

What are the usual findings in chronic laryngitis?

Hoarseness, the chief symptom, which is more rarely causative of aphonia.

Cough, a sensation of dryness, and expectoration of tenacious mucosities.

Other symptoms of acute laryngitis, but less marked.

Chronic inflammation of the cords, thick and edematous mucosa, polyps, and possibly ulcers and secretions.

General rules for the treatment of acute laryngitis:

Voice rest in a well-humidified room.

Symptomatic care of cough or pharyngeal irritation.

Care of the causative factor, including antibiotherapy.

General rules for the treatment of chronic laryngitis:

Same as above.

Antiallergic measures, when needed; stop smoking.

Laryngotracheobronchitis (Croup)

When you would suspect this syndrome to occur:

There are hoarseness, cough resembling the sound of a seal, and inspiratory obstruction.

There is stridor at inspiration, but no pain on swallowing.

There is xiphoid and suprasternal retraction.

A sudden onset with elevated fever and marked prostration and dyspnea will indicate acute supraglottic edematous laryngitis.

Violent paroxysms of cough may indicate a foreign body.

Essentials of treatment:

Use steam inhalations and hydration.

Be on the alert for a life-saving tracheostomy.

Foreign Bodies

What are the natural events in these cases?

There may be sudden onset while eating (or having something in the mouth).

Also, there may be sudden onset while unconscious.

Dentures or bones may be the cause, in the case of adults.

Bodies lodged in the larynx cause cough, gagging, stridor, and hoarseness, always with the risk of partial or complete air obstruction.

With bodies lodged in the bronchial tree there is an initial sudden cough, and after a more or less prolonged time there will start again the cough, wheezing, pulmonary infection, and atelectasis.

With bodies lodged in the esophagus there will be immediate coughing, gagging, and the sensation of something stuck in the throat; at times there will be pain, and difficulties in passing saliva.

What to do in each particular case:

All foreign bodies will be removed.

Try to expel the foreign body by a sudden pressure over the epigastric area (use both hands, place yourself behind the patient).

Vocal Cord Nodules

Why these nodules usually occur:

Because of abuse or misuse of the voice, particularly screaming.

What is the main trouble they cause?

Hoarseness; or a change of voice in a later stage.

What is the logical approach to solve these cases?

Extirpation, and voice rest.

Tumors of the Larynx

What are the initial differences between benign and malignant tumors of the larynx?

None; they begin with identical initial symptomatology, only to be differentiated by biopsy.

What are the symptoms that usually denote a tumoral growth in the larynx?

Hoarseness, which may produce a later change in the quality of the voice of a particular patient. Be suspicious with patients over age 40.

Cough, which may also be an early symptom.

Hemoptysis, which may accompany cough.

Pain, in the form of sore throat or pain in the ear, or a particular sensation in the throat (such as "sticking").

Dysphagia or respiratory obstruction.

What the laryngeal examination reveals:

Fullness or swelling, or a frank mass or an ulceration.

Bronchitis

How the clinical picture of acute bronchitis usually starts:

Cough is the main initial symptom.

Cough begins dry and nonproductive.

After 1 or 2 days some secretion appears, viscid first, and more abundant mucoid or mucopurulent later.

What other symptoms of upper respiratory infection (URI) are also noted?

Febrile syndrome with coryza-like symptoms, sore throat, and general pains, mainly muscle pains.

What are the usual auscultatory signs of acute bronchitis?

Sibilant or sonorous rales.

Occasional, at the bases, crackling or moist rales.

In chronic bronchitis what are the symptoms to establish the diagnosis?

There is productive cough, without other symptoms in many cases.

In older patients there are usually other symptoms of emphysema (dyspnea, prolonged expiratory sounds, barrel-chest thorax, and overaerated lung fields). With the progress of the disease, obstructive symptoms may also be evident, and other complications may also take place.

Other symptoms may occur, such as cyanosis, dyspnea, asthma, and progressive deterioration.

How bronchitis should be treated:

In both cases, by rest, adequate hydration and ventilation, control of cough and sputum, and the adequate use of antibiotics.

Bronchiectasia

How will you expect a patient to present a case of bronchiectasis?

By presenting a chronic cough accompanied with unusually large amounts of purulent sputum, and maybe hemoptysis, as well.

What are the clinical symptoms and the regular course of the disease?

Onset is insidious, not rarely following other pulmonary infections.

Congenital cases apparently follow the same course. The increase of cough is peculiar, noted mostly in the morning, late in the afternoon, and on retiring, and depends on expectoration.

The sputum may be abundant (not always so) and distribute in three layers (with pus at the bottom, turbid at the middle, and frothy at the top).

Hemoptysis, dyspnea, recurrent attacks of infections, and clubbing of fingers and toes may accompany the disease.

Atelectasis may be a symptom, particularly with children.

In physical examination, what do you expect to find?

Rales and ronchi, particularly at the lower lobes (if they are absent, the diagnosis is questionable). Check before and after postural drainage.

In more advanced cases, there are retraction of the chest walls and diminished thoracic excursions.

Symptoms of complicating diseases will occur.

General, specific, and surgical measures to be taken in these cases:

Provide clean air, dry and warm.

Avoid all sort of irritants to the respiratory tract.

Control secretions as much as possible.

Control infections with adequate antibiotic therapy.

Consider surgery for those who can bear it easily, or those who present very severe symptomatology.

Asthma

Describe an attack of bronchial asthma:

It begins with tightness on the chest rapidly followed by dyspnea, wheezing that is heard from a distance,

and not rarely cough that ends with some sputum production. Dyspnea and wheezing characterize the attack, which lasts 1 hour or less.

The characteristic of these attacks is their recurrence. Other symptoms of asthma:

There is freedom from symptoms between the attacks.

At the beginning of the attack there is more wheezing and dyspnea than later.

At the end of the attack the cough increases, and there is expectoration of thick, tenacious mucus.

When the symptoms are persistent and there is not a clearing of symptoms in due time, there is a status asthmaticus.

Stethoscopically, the evidence of asthma is characterized by:

There are prolonged expiration sounds.

There are sonorous and sibilant rales, also more marked during expiration.

Respirations are labored, but the rate is normal.

In severe attacks the chest may become distended and the patient cyanotic.

Between attacks respiration is usually normal, but may show expiratory sibilants, particularly in forced expiration.

In treating asthma there will be drugs for the acute attack, and others for chronic treatment:

For the acute attack, epinephrine, aminophylline, nebulized drugs to give in mild attacks, corticosteroids, and others.

For status asthmaticus, aminophylline, corticosteroids, and assisted respiration.

For chronic treatment, desensitize and use some of the drugs also used for the acute attack, such as aminophylline, ephedrine, and others.

Loeffler's Syndrome or Pulmonary Infiltrations with Eosinophilia

Also called the PIE syndrome, it usually presents as follows:

There is such meager symptomatology that it is discovered by accident.

Fever is occasionally present.

Cough, with or without side pain, may be present.

Pulmonary lesions may disappear or migrate (important for diagnosis).

Physical signs may show:

Hyperresonance, and harsh sounds.

Fine crepitation in localized patches.

When the PIE syndrome mixes with asthma, what are the usual findings?

The bronchopulmonary sounds are more bizarre and less related to definite pulmonary areas.

There is usually an increase in the symptoms of asthma.

There is frequently a weight loss.

Skin tests are different (sensitivity to germs, parasites, or other types of asthmatic reactivity).

Treatment:

Treatment is largely symptomatic.

Corticoids may help

The disease is benign and runs a limited course.

Pneumonia

What are the basic symptoms for the clinical diagnosis of pneumonia?

Sudden onset.

Rapidly rising fever, with shaking chills.

Stabbing pain on the diseased side of the chest, worsened by efforts or movements, and possibly with a heterotopic spread to other areas (shoulder, flank, or abdomen).

Annoying cough.

Production of sputum, which in many cases may show distinctive features for helping the diagnosis of the variety.

Other general symptoms, such as abdominal distention, jaundice, painful tachypnea, tachycardia, a picture similar to appendicitis or cholecystitis, delirium, and convulsions.

How does the sputum differ physically from one variety to another of pneumonia?

First pinkish, then rusty, and finally yellowish purulent in pneumococcal pneumonia.

Reddish, sticky (difficult to expectorate), and mucoid if due to *Klebsiella*.

Copious, purulent or blood-streaked, with salmon tinge, if staphylococcal.

Sticky, bloody, apple-green in *Hemophilus influenzae*.

Scanty and mucopurulent in viral pneumonia.

Auscultation of the lungs helps the diagnosis of pneumonia as follows:

First stage, with fine rales and diminished breath sounds.

Second stage, with evidence of consolidation with bronchial breathing and often friction rub.

Third stage of resolution, reappearance of rales.

Identification of the causative microorganism:

Laboratory and X-ray findings will do the principle work.

In *Klebsiella* pneumonia the disease may be fulminant, cyanosis is noted early, and there is a profound toxicity.

In *Pseudomonas*, *Proteus*, and *Serratia* the patient will be a debilitated one (chronic lung, heart, alcoholism); delirium and consolidation are of early appearance; there is multiple abscess formation, and maybe also a case of superinfection.

In streptococcal pneumonia the patient soon becomes severely toxic and cyanotic, and pleural effusion and empyema are early complaints.

In staphylococcal pneumonia there may be a previous relatively mild disease that suddenly turns severe.

In *Bacteroides* pneumonia a foul smell may give the diagnosis.

In *Pneumocystis carinii* pneumonia the patient suffers from leukemia or is in immunosuppressive treatment.

In terminal pneumonia the disease is insidious, but the patient is very seriously ill from other causes.

In mycoplasmal pneumonia the disease is mild and the symptomatology scanty.

In aspiration or lipid pneumonia the disease is linked to the passage of some abnormal material into the lungs.

Please give a brief reminder of the treatment of each kind of pneumonia:

In pneumococcal pneumonia Penicillin (cephalosporin)

In *Klebsiella* pneumonia Kanamycin (cephalothin, gentamycin)

In *Hemophilus influenzae* Ampicillin (chloramphenicol)

In streptococcal pneumonia Penicillin (erythromycin)

In staphylococcal pneumonia Oxacillin (nafcillin)

In viral pneumonia Tetracyclines

In *Pneumocystis carinii* Trimethoprim plus sulfamethoxazole

In aspiration pneumonia Ampicillin and corticosteroids

In *Pseudomonas*, *Proteus*, *Serratia* Gentamycin plus carbenicillin

In *Bacteroides* pneumonia Penicillin (clindamycin)

In terminal pneumonia The specific or ampicillin

In mycoplasmal pneumonia Nothing or a tetracycline

Silicosis

Silicosis is usually a diagnosis made on X-ray films; how can you select the cases for study?

Those exposed for a long time to silica dusts.

Frequent upper respiratory infections, including pneumonia.

Dyspnea on exertion, as a frequent complaint.

Cough, initially dry, then becoming productive.

Hemoptysis (may be severe and even fatal).

Other diseases, such as tuberculosis, pulmonary insufficiency, and cor pulmonale.

Treatment to be followed:

Symptomatic, or that of the concomitant disease.

Anthraxosis

Coal dust may cause symptoms as follows:

Ordinarily the disease appears to be a benign one.

It may appear as a progressive fibrosis or emphysema.

There may be a silica component in this disease.

The recommended treatment is:

None.

Asbestosis

Asbestos dust is the cause of asbestos bodies, which may provoke:

- Early dyspnea, with tachypnea and hyperpnea.
- Productive cough, which is dry in the beginning.
- Cyanosis on exercise and pulmonary insufficiency.
- Embedded particles, which may appear in the extremities as "corns."
- Increased susceptibility to pulmonary cancer, but not tuberculosis.

These cases are to be treated:

Symptomatically.

Byssinosis

This sort of sensitization to protein in cotton dust may cause:

- Symptoms similar to those occurring in other forms of air pollution.
 - Periodic symptoms of bronchoconstriction (after non-exposure lasting for more than 1 week).
 - Later symptoms of chronic bronchitis and emphysema.
- Treatment advisable for this condition consists of:
- Care of chronic bronchitis and emphysema.

Berylliosis

Fumes or dust containing beryllium cause symptoms as follows:

- In acute exposure there are upper respiratory symptoms, with bronchitis first, and pneumonia later.
- In chronic forms the symptoms of respiratory insufficiency are out of proportion to physical findings.
- The chronic symptoms are dyspnea (of the hyperpneic form) with cyanosis and cough, weight loss, skin lesions, pulmonary insufficiency, and cor pulmonale.
- There is a better prognosis for the acute form than for the chronic, which may terminate in progressive deterioration of respiration.

Drugs that may give good results in berylliosis are:

- Corticosteroids, particularly if they are given early in the disease.

Coal Miner's Pneumoconiosis

Coal dust retained in the lungs will cause symptoms as follows:

- In simple pneumoconiosis, the impairment is not severe.
- In simple pneumoconiosis, the association of emphysema makes the situation worse.
- In progressive massive fibrosis, dyspnea and cough cause disabling symptoms.

Advisable treatment for progressive massive fibrosis:

- The same as for diffuse obstructive pulmonary emphysema.

Farmer's Lung and Bagassosis

The exposure to moldy hay (farmer's lung) and exposure to moldy pulp of sugar cane (bagassosis) provoke similar symptoms, which are:

In the initial phase, fever, dyspnea, and hypoxia.

With repeated exposures, irreversible disabling pulmonary symptoms.

Advisable treatment:

As for acute bronchitis; use corticoids in severe cases.

Silo-Filler's Disease

The inhalation of fumes from silos or from burning nitrocellulose film causes symptoms that appear as an initial phase, and then by a second acute phase, as follows:

Following exposure there are cough, dyspnea and weakness.

After a quiescent phase, though with some dyspnea and weakness, an acute stage occurs with fever, chills, malaise, and increasing cough, and there is a disabling dyspnea with tachypnea and tachycardia.

What is heard on auscultation?

Diffuse rales and ronchi.

What measures are used?

Assisted respiration, oxygen, corticosteroids, and antibiotics.

Pulmonary Tuberculosis

How the primary complex will be differentiated from influenza:

- | | |
|--|------------------------------|
| In pulmonary tuberculosis: | In influenza: |
| fever of varied character | fever lasts only 2 or 3 |
| will last 2 or 3 weeks, | days, most frequently |
| rarely with chills. | with chills. |
| the accompanying symptoms consist more of | there is more prostration |
| drowsiness, fatigue, and | and generalized aches, |
| weight loss. | headache, and weakness. |
| erythema nodosum frequently appears (tender, | no erythema nodosum appears. |
| red nodules in the anterior aspect of legs). | |
| there is gradual recovery. | |

If there is progressive primary tuberculosis, how will it be detected?

After the second or third week there will be no deferescence, and the disease will evolve slowly into progressive pulmonary tuberculosis of the adult type.

In progressive pulmonary tuberculosis of the adult type what are the more important diagnostic traits?

There is a gradual onset, with weakness, anorexia, and weight loss.

Some cases will also show evening fever and malaise for a few weeks.

After the disease is well established, there will be fever, profuse sweating during the night, and increased weakness.

There is cough, which increases as the disease progresses; at the start, only during the morning; thereafter, more severe.

Sputum is scanty at first; in caseous forms, it is green and purulent; in established chronic forms, it is yellowish and mucoid.

Hemoptysis may be the first alarming symptom, from a few drops streaking the sputum to a very important, even fatal, hemorrhage.

Chest pains, dyspnea, and hoarseness generally indicate some of the complicated forms (pleural, pneumothorax, pharyngeal).

By examining the chest you may note:

Possibly, nothing.

Fine localized and persistent rales in upper lobes, better heard after asking the patient to cough.

Rarely, other signs of wheezing, rales, consolidation, deviation, etc.

Basic therapy in the treatment of tuberculosis includes:

Start treatment with three drugs, such as isoniazid, streptomycin, and also rifampin or ethambutol.

To patients previously treated for tuberculosis, give a drug not yet administered to them: aminosalicylic acid, ethambutol or rifampin, and some of the second class like cycloserine, viomycin, etc.

Psittacosis

How will you differentiate psittacosis from a regular pneumonia:

The history of exposure to birds of the parrot family is helpful.

A mucopurulent sputum is usually produced after a period of dry coughing.

Pulmonary migratory lesions may be present.

The signs of pneumonitis may be delayed.

There may be epistaxis, rose spots, and splenomegaly. For the rest, the clinical picture is almost identical with pneumonia.

Treatment for psittacosis:

A tetracycline; plus oxygen and sedation, if required.

Lung Abscess

Following a previous pneumonia, a possible aspiration of foreign material, or some sort of obstruction, what are the evident symptoms of lung abscess?

One or two weeks later, a septic fever, chills, and sweating will start.

Periodically, there will be expectoration of large amounts of an extremely foul-smelling purulent sputum, of a brown or gray color.

There will be cough, usually nonproductive at the onset.

There will be pain, particularly at coughing.

Rarely, the sputum will not present a foul odor, but will be green or yellow musty sputum.

Hemoptysis will not be rare, or only blood-streaked sputum.

If the abscess becomes chronic, there will be anemia with weight loss and pulmonary osteoarthropathy.

Dyspnea will be noted only in massive infections.

Can the abscess be easily detected at examination?

Signs may be minimal, or totally absent.

Small areas of consolidation due to pneumonitis are the most frequent findings, with dullness and suppressed breath sounds.

Moist rales may also be heard.

When the pneumonic area does not resolve, consider that the abscess is formed.

To solve this situation the best procedure is:

Intensive antibiotherapy.

Surgery.

Pulmonary Cancer

Symptoms that may indicate cancer:

There will be cough, either as a starting symptom, or a symptom already present but which changes in character. This is symptom number 1.

The cough is mostly nonproductive at the start; later a scanty sputum may be produced.

The cough is persistent.

Hemoptysis occurs in some cases.

Chest pain, unilateral, constant, and severe, is very frequent.

Sputum is usually scanty, mucoid, and may be tinged with blood; but when it appears in large amounts, watery or mucoid, it may be considered pathognomonic of bronchiolar carcinoma.

Check for pulmonary cancer when there are:

Hypertrophic osteoarthropathy with clubbed fingers and toes

Myasthenia gravis

Peripheral neuritis

Corticocerebellar degeneration

Cushing syndrome

Gynecomastia, in males

Hypercalcemia or hyponatremia

Polycythemia

Pancoast's syndrome (Horner's syndrome plus shoulder-arm pain).

Carcinoid syndrome

There will be localized wheeze or frank evidence of atelectatic obstruction of a bronchus.

Metastases are important: to the cervical and supraclavicular lymph nodes, bones, brain, etc.

Additional symptoms noted in advanced disease are anorexia with weight loss, weakness, pulmonary infections, other respiratory symptoms, pulmonary extension or spread of the disease, etc.

Other helping signs to establish the diagnosis:

- Localized wheezing.
- Evidence of obstructive atelectasis.
- Signs of pleural or mediastinal invasion.

Means of treatment:

- Early surgical removal, the best hope for cure.
- Radiotherapy.
- Chemotherapeutic agents

Sarcoidosis

Sarcoidosis may provoke symptoms other than pulmonary; please establish first the pulmonary and then the nonpulmonary corresponding symptoms:

- Very frequently there are not-pulmonary symptoms.
- Cough and dyspnea (due to compression) are among the most common symptoms, but occur mostly late in the disease; notwithstanding, if the onset is acute, they may appear at an earlier stage.

Most patients belong to the black race.

General symptoms are minimal or absent, namely, weight loss, night sweats, or fever.

Skin lesions are nodules or infiltrations noted on face, ears, nose, and extensor surfaces.

Erythema nodosum may be seen.

Salivary glands may enlarge, without any pain.

Ocular symptoms may occur (lacrima, conjunctiva, iris, etc.)

Paralysis and other symptoms may also occur, but not too frequently.

Other signs may help in evaluating the disease:

Hilar adenopathy, which has to be differentiated from Hodgkin's disease and from tuberculosis.

Extensive lesions with scarce symptomatology.

The treatment:

There is none, and the prognosis is favorable overall.

Corticosteroids may help some cases; if no results occur in one month, the medication should be discontinued (slowly).

Granulomatosis

Clinical evidence of Wegener's granulomatosis occurs as follows:

- Symptoms of sinusitis.
- Epistaxis and hemoptysis.
- Also symptoms of pulmonary consolidation.
- Hemorrhagic skin lesions.
- Progressive renal failure, which accounts for the final prognosis.
- Febrile symptoms that point out an acute disease.
- Diagnosis dependent on the biopsy findings.

Explain how treatment can be worked with better efficiency:

The earlier treatment occurs, the better, to reach a possible control of the disease.

This may be possible with corticosteroids, alone or with azathioprine.

Also, heparin may help in early phases to control vascular symptoms.

Once the disease is well established, there is no treatment available.

Pulmonary Infarction

Findings that may lead to the diagnosis of pulmonary infarction:

Frequently, not always, the patient suffers from thrombophlebitis.

Consider it when a clinical picture opens abruptly; though do not forget that there are minor grades of embolization noted by a gradually developing dyspnea. The outstanding symptoms are dyspnea and anxiety, which are characteristic.

Fever rises suddenly, not infrequently being the first and only symptom of this disease.

How the clinical symptoms are completed and the picture develops:

Silent intervals interrupt the symptomatology.

Chest pain occurs in a large number of cases.

The character of chest pain may be either pleuritic or anginal (but not related to any previous angina).

Cough occurs in one-half of the cases.

Hemoptysis occurs in one-third of the cases.

There may be evidence of frank pulmonary edema, but not always.

Other related events that may occur:

Syncope occurs, not too rarely.

There may also be evidence of right heart failure.

Some cases will present less severe dyspnea and pleuritic pain.

Some cases will present milder cough.

In these cases, dyspnea, pain, and cough occur some hours after the thromboembolism and characterize the infarction; particularly if there is also hemoptysis.

Pulmonary signs of the disease are:

Signs of consolidation of the lungs.

Pleural friction rub.

Occasional pleural effusion, secondary to infarction.

Cardiovascular signs of pulmonary infarction are:

Tachycardia.

Increased second pulmonary sound.

Loud systolic murmur.

Protodiastolic gallop.

Cyanosis and collapse.

Emergency measure to be carried out are:

Assist respiration, with oxygen.

Give heparin.

For severe pain, give morphine or meperidine.

In the case of shock use vasopressors.

Place a central venous catheter (for pressure and fluids).

Is there some helpful surgical procedure?

Always be ready to perform an embolectomy, if feasible.

Pulmonary Emphysema

Who are those to be suspected of pulmonary emphysema, because of a previous condition?

Those with a chronic pulmonary infection.

Long-standing cases of asthma.

Those with a chronic fibrotic pulmonary disease (fibrosis, silicosis).

Starting symptoms of emphysema:

Insidious onset.

Dyspnea and cough, the most important symptoms.

Characteristics of dyspnea in cases of emphysema:

It is only exertional at the start.

In some cases dyspnea will occur at rest.

Orthopnea may be seen in some cases.

Dyspnea at rest and orthopnea occur most frequently in late phases.

Bouts of wheezing are not rare.

These symptoms may become extremely severe in cases of intercurrent respiratory infections.

Cough characteristics in cases of emphysema:

The cough is productive.

The cough results are inefficient for clearing out the airway.

The cough is worsened even by mild infections of the respiratory system.

Other symptoms provoked by respiratory difficulties are:

Hypoxia that may cause weakness, anorexia with weight loss, and lethargy.

In more advanced respiratory insufficiency, headache, miosis, papilledema, and tremors.

Auscultation of the thorax will reveal:

There may be diminished movements; inspiratory and expiratory, but with prolonged expiratory sounds.

There is wheezing, mostly of the sibilant type, but some ronchi are also heard.

Symptoms of chronic bronchitis are not rare.

Heart sounds are heard distant.

Symptoms of cor pulmonale are not rare.

The examination of the thorax will also reveal:

There is diffuse hyperresonance of the whole thorax, masking the normal dullness of the heart and the liver.

The chest is maintained in the well-known barrel-shape inspiratory position.

There is an increased anteroposterior diameter of the chest.

As a consequence of the above changes, what other signs may appear?

Diminished or totally absent movements of the diaphragm.

Respiration maintained only by the accessory muscles, including the intercostals.

A resultant short neck.

Total time of emptying the lungs (total vital capacity) above 5 seconds.

The liver found in a lower position.

A ruddy or cyanotic face.

Cyanosis of lips and nails.

Peripheral edema.

Main steps in treatment are:

Relieve bronchial obstruction with bronchodilators and with liquefiers of the secretions.

Use corticosteroids in the severe cases.

When the clinical picture is evident, treat the chronic pulmonary heart disease.

Give the specific antibiotic in case of infections.

Pulmonary Edema

An excess of fluid in the extravascular spaces of the lungs, pulmonary edema, may be diagnosed by the following symptomatology:

The onset may be either rapid or slow.

Cough is the most important symptom of the start.

Cough may be either mild or severe.

A frothy sputum may occur; may be pinkish abundant in severe attacks.

Oppression may cause chest pain, possibly of an anginal type.

Auscultation of the chest in pulmonary edema will reveal:

There is wheezing, because of bronchiolar spasm.

There are fine rales (not crepitant) of a very humid character.

These rales are heard first at the base of the lungs, very rarely at only one side.

The rales extend upward to the whole lungs, as the disease progresses.

Other signs and symptoms that occur because of the mentioned changes:

There are tachypnea and orthopnea as forms of dyspnea due to chest oppression.

The frothy sputum appears, spilling from the mouth. There may be sweating, pallor, and cyanosis.

Bouts of mild attacks may appear in patients with mitral stenosis who perform exhaustive exertion.

Severe forms may occur to hypertensive patients.

In very ill patients symptoms of pulmonary edema may appear at a slow pace.

Previous conditions or activities may help for diagnosis:

A previous serious pulmonary or cardiac disease.

Exposure to irritant inhalations.

Schematize treatment:

Provide general care in a sitting position.

Assist respiration (watch for CO₂ retention).

Bronchodilators may help (but avoid sedation).

Some sedation may be given in case of left ventricular failure, to control restlessness and dyspnea, except in respiratory depression.

Diuretics are a very good help.
Consider when phlebotomy or cardiotonics may be of help.

Respiratory Distress Syndrome

This syndrome, also called "shock" or "pump" lung, may be caused by:

- Injury leading to shock.
- Aspiration pneumonia.
- Other forms of pneumonia, particularly viral.
- Inhalation of irritant substances, including smoke.
- Fat embolism.
- Heart-lung perfusion techniques.

What are the outstanding symptoms at the start?

Dyspnea and cyanosis.

The findings noted in respiratory examination are:

- Some sort of bronchovesicular harsh respiration.
- Evidence of progressive consolidation of the lungs.
- Retraction of the intercostal spaces.

Is there any indication of the disease noted during treatment?

The pressure needed to maintain a relatively normal tidal volume is progressively higher.

Treatment techniques advisable in these cases:

- Treat shock as soon as possible with avoidance of fluid overload.
- Use intravenous diuretics if they seem needed.
- Assist respiration.
- Give corticoids in cases of aspiration, septic shock, and fat embolism, or when the patient does not respond adequately to the regular treatment.
- Give antibiotics if there is an important sepsis in progress.

Respiratory Failure

Diagnosis of respiratory failure is suspected when any of the following symptoms and signs appear:

- There is evidence of hypoxemia as indicated by headache, tachycardia, hypotension, warm extremities, restlessness with confusion, and final unconsciousness.
- There is evidence of respiratory acidosis as indicated by headache, tachycardia, confusion, tremors, sweating, miosis and papilledema, and final coma.

(The best procedure for monitoring oxygen and carbon dioxide concentrations is by measuring arterial blood gases.)

The appearance of the above symptoms and signs will be most informative that respiratory failure is occurring in:

- Patients with obstructive lung disease, as follows.
- Cardiac disorders with severe pulmonary congestion.
- Asthma, chronic bronchitis, or emphysema.
- Diseases of the type of pneumonia, atelectasis, pneumothorax, or pleural effusion.

Fibrosis of any type.

Cases of restricted respirations due to abdominal distention, obesity, etc.

Cases of restricted respirations due to abnormalities, injuries, or neuromuscular cause (trauma or infection, drugs, etc.).

Schematize the treatment for respiratory failure:

- The essentials depend on the nature of the causative disease and the clinical condition of the patient.
- Give assisted respiration if needed in the particular case.
- Otherwise, give oxygen, relieve bronchospasm with aminophylline or an aerosol, and try a nebulizer for continuous humidification.
- Advise cleansing of the lungs by coughing and deep breathing; also with diuretics, potassium chloride.
- When necessary, resort also to corticoids, digitalis, and even intubation.

Main characteristics of chronic respiratory failure:

- Cor pulmonale.
- Polycythemia.
- Possible milder symptoms of the acute condition.

Schematize the treatment for these chronic respiratory failures:

- Session of oxygen therapy.
- Other forms of aerosol therapy (bronchodilators, mucolytics).
- Physical therapy.
- Attention to the causative condition.

Atelectasis

Main symptoms of the disease:

- There are sudden dyspnea, cyanosis, and fever, in the acute stage.
- There are also tachycardia and chest pain.
- Wheezing and cough are not rare.
- In chronic atelectasis there are very few, if any, symptoms.

Results of physical examination are as follows:

- Decrease of chest motion, with narrowing of intercostal spaces.
- Shift of the trachea and the cardiac apex towards the involved side.
- Diminished sounds on the affected side (vocal fremitus, breath).
- Occasionally, bronchial respiration.
- Tachycardia.

The patient can help to improve his condition by:

Coughing and hyperventilating the lungs.

If patient's own help does not work, because of lack of cooperation or lack of effect, what are the best steps to follow?

- Introduce a transtracheal tube to pass saline to stimulate coughing.
- Try bronchodilation with medication given by aerosol.
- Try bronchodilation with an intermittent positive pressure apparatus, with which bronchodilators and mucolytic substances will be given.

When the above measure fail, is there some procedure to be followed?

Bronchoscopy may be necessary in some cases.

Pulmonary Vasculitis

What the term "pulmonary vasculitis" includes:

Hypersensitivity of vasculitis in systemic diseases.

The immunologic reaction with type III antibody formation responding to various antigens (streptococcus, serum, drugs).

A pulmonary vasculitis reaction is seen in any of the following circumstances:

Interstitial pneumonitis.

Wegener's granulomatosis.

Serum sickness.

Systemic lupus erythematosus.

Polyarteritis nodosa.

What can be done for these patients:

Use corticoids and immunosuppressive agents.

Avoid the offending substance, if known.

Extrinsic Allergic Alveolitis

Patients most easily affected by this disease are:

Those exposed to moldy dusts with fungi.

Those exposed to thermophilic actinomycetes (infected air conditioning systems).

Those with farmer's lung, byssinosis, bagassosis.

How this extrinsic allergic alveolitis caused by type III antigen-antibody reaction is clinically manifested:

There is a regular clinical picture of acute pneumonia.

This pneumonia occurs following relatively closely one of several clinical exposures to the offending agent.

What can be done for these patients:

Use corticoids.

Avoid exposure to the offending substance.

Alveolar Proteinosis

The characteristics of the clinical picture of this disease are as follows:

Progressive onset.

Cough and dyspnea.

Evidence of pulmonary insufficiency.

Intermittent fever.

Easy development of fungal infections.

What can be done for these patients:

Use pulmonary lavage to remove the proteinaceous material by means of saline or heparin.

Interstitial Pneumonia or Fibrosis

After exclusion of other forms of pulmonary fibrosis (infections, toxics, inhalants, and the like), what symptoms will suggest this disease?

Chronic cough.

Progressive dyspnea.

Symptoms of cor pulmonale.

The clinical examination that will confirm the above symptoms will reveal:

Crackling rales.

Clubbing of the fingers (usually an early sign).

Diminution of lung volume and vital capacity.

Treatment of the disease:

Use corticosteroids; but they are not always efficient.

Alveolo-Capillary Block Syndrome

Name the principal diseases in which this syndrome can be present:

Miliary tuberculosis.

Bronchiolar carcinoma.

Mitral stenosis.

Scleroderma.

Sarcoidosis, asbestosis, and berylliosis.

Principal symptoms of the complex are:

Cyanosis.

Dyspnea, with hyperventilation and tachypnea.

In spite of the above, symptoms of hypoxemia.

Principal finding in medical examination:

Decreased lung volume.

Treatment is as follows:

Care for the underlying disease; final results depend on this factor.

Use corticosteroids to prevent fibrosis from becoming established.

Pickwickian Syndrome

Who are the patients that may present this syndrome?

Extremely obese patients.

What are the traits of the syndrome?

A lack of heart or lung disease, until the syndrome is well developed.

Cyanosis, with secondary polycythemia.

Periodic respirations, hypoxia, hypercapnia.

Somnolence, which may be complicated with insomnia.

In advanced cases, right ventricular hypertrophy and heart failure.

Treatment is as follows:

Weight reduction.

Progesterone, which may counteract hypoxia.

Goodpasture's Syndrome

Clinical features of this syndrome consist of:

Pulmonary hemosiderosis and glomerulonephritis.

The principal symptomatology consists of:

Cough.

Recurrent hemoptysis.

Dyspnea.

Progressive glomerulonephritis with renal failure.

Signs of the syndrome are:

Iron deficiency anemia.

The treatment may consist of:

- Corticosteroids or immunosuppressive drugs.
- Bilateral nephrectomy with transplantation of one kidney, if feasible.

Fibrinous Pleurisy (Dry Pleurisy)

When fibrinous pleurisy may develop:

- Secondary to a pulmonary disease, usually preceding the development of pleural effusion.

These primary diseases usually are:

- Pneumonia, of most varieties.
- Pulmonary infarction.
- Cancer, also most of the varieties of pulmonary cancer.

The principal, and almost only, symptom is:

- Chest pain.

Explain its characteristics:

- There is pleuritic pain, most marked during inspiration.
- Pain is referred to the shoulder and neck (central portion of the diaphragm involved).
- Pain is referred to the abdomen (peripheral portion of the diaphragm involved).
- Pain greatly diminishes or even disappears when no inspiratory movements are performed (withholding inspiration or splinting of ribs).

Auscultatory findings are as follows:

- Pathognomonic pleural friction rub.

Treatment procedures are:

- Treat the causative disease.
- Relieve pain, with analgesics or strapping.
- In very severe cases procaine infiltration of intercostal nerves may be needed.

Pleural Effusion

Is idiopathic pleural effusion prone to occur?

- There may be a possibility, but in the greater number of instances it will prove to be of a tuberculous origin.

What are, then, the most frequent causes of pleural effusion?

- Tuberculosis.
- Malignant tumors.
- Pneumonia.
- Pulmonary infarction.
- Previous fibrinous pleurisy (dry pleurisy).

The outstanding symptoms of pleural effusion are:

- Chest pain.
- Decreased chest movements.
- Dyspnea.

Is the chest pain in pleural effusion similar to that in dry pleurisy?

- There may be no symptoms at all.
- Chest pain is present when fibrinous pleurisy starts the picture.
- The characteristics of this pain are the same as in fibrinous, dry pleurisy, whether or not it precedes the disease (see above entry).

Are there other symptoms also present in pleural effusion?

- Dyspnea is ordinarily mild in mild effusions, and severe in more important ones, depending also in the speed of the accumulation.

There may be fever and sweats.

Cough and expectoration may also occur.

Evidence of cardiac failure may also occur.

Also, evidence of the causative disease will be present.

Auscultatory evidences of pleural effusion:

- Diminished or abolished sounds in the site of the effusion, notably on the bases of the lungs, depending on the amount of fluid.

Egophony over the fluid level, like a bleating voice.

More rarely, bronchial breath sounds or bronchophony also present over the fluid area (generally in rapidly forming large effusions).

Other evidences noted in physical examination:

- Decreased motion of the chest.
- Dullness on percussion (flat percussion).
- Diminished or absent perception of tactile fremitus.
- Usually, hyperresonance above the fluid level.

Changes that are prone to occur in this disease:

- The mediastinum will shift away the lesion in large effusions.

The shift will be toward the fluid if there is atelectasis.

Signs similar to those of consolidation may occur in large rapidly forming effusions (dullness, bronchophony, and bronchial respirations).

If the initial pain is due to dry pleuritis, it may diminish when the pleuras are separated by some amount of effusion.

Large amounts of fluid accumulating rapidly may cause heart impairment; but at a slower pace even large amounts can be better tolerated.

Succussion splash may be heard when there is also pneumothorax.

General lines of treatment are:

- Specific treatment of the causative disease.
- Aspiration of fluid.

Pneumothorax

How can the entrance of air into the pleural cavity occur?

- Spontaneously, during a previous disease or of unknown cause.

By traumatic injuries that perforate the chest.

By a tear from a fractured rib or other foreign object.

By therapeutically induced pneumothorax, as formerly was a routine in the treatment of tuberculosis.

Tell the usual clinical picture of pneumothorax:

- The initial symptom is most frequently a sudden chest pain.

Pain is sharp and mostly interferes with respiration, thus decreasing chest motion.

The pain is referred, at times, to the shoulder, or to the arm, and also to the abdomen.