

TABLE 144-2 MAJOR INFECTIOUS CAUSES OF EOSINOPHILIA^a

Organ Involved	Organism	Exposure	Geographic Distribution	Degree of Eosinophilia ^b
Central nervous system	<i>Angiostrongylus</i>	Raw seafood	Asia	Mild
	<i>Gnathostoma</i>	Raw poultry and seafood	Asia	Moderate to extreme
Eye	<i>Loa loa</i>	Insect bite	Africa	Moderate (expatriates), mild (patients living in endemic areas)
	<i>Onchocerca</i>	Insect bite	Africa	Mild (expatriates), moderate (patients living in endemic areas)
Lung	<i>Chlamydia trachomatis</i>	Sexual transmission	Worldwide	Mild
	<i>Strongyloides</i>	Soil	Tropical	Moderate (acute), mild (chronic)
	<i>Toxocara canis/Toxocara cati</i> ^c	Dogs, soil	Worldwide	Moderate to extreme
	<i>Paragonimus</i>	Crabs and crayfish	Asia	Moderate (acute), mild (chronic)
	<i>Coccidioides immitis</i>	Soil	Southwestern United States	Mild (acute), extreme (disseminated)
	<i>Brugia malayi</i>	Insect bite	Asia	Mild to moderate
	<i>Pneumocystis jirovecii</i>	Air	Worldwide	Mild
Liver	<i>Schistosoma japonicum</i>	Freshwater swimming	Asia	Moderate (acute), mild (chronic)
	<i>Schistosoma mansoni</i>	Freshwater swimming	Africa, Middle East, Latin America	Moderate (acute), mild (chronic)
	<i>Fasciola</i>	Watercress	Worldwide	Moderate
	<i>Clonorchis</i>	Raw seafood	Asia	Mild to moderate
	<i>Opisthorchis</i>	Raw seafood	Asia	Mild to moderate
Intestines	<i>Ascaris</i> ^d	Raw fruits and vegetables, contaminated water	Worldwide	Mild to extreme
	Hookworm	Soil	Worldwide	Mild to moderate
	<i>Trichuris</i>	Raw fruits and vegetables, contaminated water	Tropical	Mild
	<i>Cystoisospora belli</i>	Contaminated water and food	Worldwide	Mild
	<i>Dientamoeba fragilis</i>	Unclear; spread via fecal-oral route	Worldwide	Mild
	<i>Capillaria</i>	Raw seafood	Asia	Extreme
	<i>Heterophyes</i>	Raw seafood	Asia, Middle East	Mild
	<i>Anisakis</i>	Raw seafood	Worldwide	Mild
	<i>Baylisascaris procyonis</i> ^e	Soil	North America	Moderate to extreme
	<i>Hymenolepis nana</i>	Contaminated water, soil	Worldwide	Mild
Bladder	<i>Schistosoma haematobium</i>	Freshwater swimming	Africa, Middle East	Moderate (acute), mild (chronic)
Muscle	<i>Trichinella</i>	Pork	Worldwide	Moderate to extreme
Lymphatics	<i>Wuchereria bancrofti</i> ^d	Insect bite	Tropical	Moderate to extreme ^f
	<i>Bartonella henselae</i>	Cats	Worldwide	Mild
Other	Recovery from bacterial or viral infections	—	—	Mild
	HIV	Contaminated bodily fluid	Worldwide	Mild
	<i>Cryptococcus neoformans</i>	Soil	Worldwide	Moderate to extreme (disseminated)

^aThere are numerous noninfectious causes of eosinophilia, such as atopic disease, DRESS (drug reaction with eosinophilia and systemic symptoms) syndrome, and pernicious anemia, which can cause mild eosinophilia; drug hypersensitivity and serum sickness, which can cause mild to moderate eosinophilia; collagen vascular disease, which can cause moderate eosinophilia; and malignancy, Churg-Strauss syndrome, and hyper-IgE syndromes, which can cause moderate to extreme eosinophilia. ^bMild: 500–1500 cells/μL; moderate: 1500–5000 cells/μL; extreme: >5000 cells/μL. ^cCan also affect the liver and the eyes. ^dCan also affect the lungs. ^eCan also affect the eyes and the central nervous system. ^fLevels are typically higher with pulmonary infections.

Radiology Imaging provides an important adjunct to the physical examination, allowing evaluation for lymphadenopathy in regions that are not externally accessible (e.g., mediastinum, intraabdominal sites), assessment of internal organs for evidence of infection, and facilitation of image-guided percutaneous sampling of deep spaces. The choice of imaging modality (e.g., CT, MRI, ultrasound, nuclear medicine, use of contrast) is best made in consultation with a radiologist to ensure that the results will address the physician's specific concerns.

TREATMENT

Physicians often must balance the need for empirical antibiotic treatment with the patient's clinical condition. When clinically feasible, it is best to obtain relevant samples (e.g., blood, CSF, tissue,

purulent exudate) for culture prior to the administration of antibiotics, as antibiotic treatment often makes subsequent diagnosis more difficult. Although a general maxim for antibiotic treatment is to use a regimen with as narrow a spectrum as possible (Chap. 170), empirical regimens are necessarily somewhat broad, given that a specific diagnosis has not yet been made. Table 144-5 lists empirical antibiotic treatment regimens for commonly encountered infectious presentations. These regimens should be narrowed as appropriate once a specific diagnosis is made. In addition to antibiotics, there is sometimes a role for adjunctive therapies, such as intravenous immunoglobulin G (IVIG) pooled from healthy adults or hyperimmune globulin prepared from the blood of individuals with high titers of specific antibodies to select pathogens (e.g., cytomegalovirus, hepatitis B virus, rabies virus, vaccinia virus,