Prior to beginning a rotation in Cardiac Pathology, the residents should have gained experience in surgical pathology grossing of specimens, autopsy technique including dissection and sampling of the heart and great vessels and general safety procedures in the laboratory as well as the use of a microscope.

Goals

The goals of the Cardiac Pathology rotation include the following:

1. To revise the detailed anatomy of the human heart and its major landmarks.
2. To acquire knowledge as to adequate sampling of the myocardium and coronary arteries for histology and adaptations of dissection technique for different cardiac pathologies.
3. To examine representative examples of the major forms of congenital heart disease with particular emphasis on unoperated cardiopulmonary specimens.
4. To examine post-operative specimens of congenital heart disease and to become familiar with eponymous cardiac surgical procedures, the indication for the procedure and the details of the surgery undertaken. He should also learn how to identify complications of surgery.
5. To examine heart specimens with a wide variety of acquired cardiac disease including ischemic heart disease, valvular heart disease (including rheumatic disease and infection), myocarditis, idiopathic cardiomyopathy (including dilated, hypertrophic, restrictive and arrhythmogenic right ventricular forms of cardiomyopathy), endocardial overlay lesions, metabolic disease affecting the heart, and cardiac tumors (primary and secondary). Gross findings should be correlated with histologic slides prepared from these same cases.
6. The sampling of the heart for microscopic examination of the conducting tissues should also be learnt on the rotation.
7. The resident should become familiar with the histologic grading of the severity of pulmonary hypertension.
8. The resident will be expected to observe in the examination of hearts from coroner's autopsies in which sudden unexpected death is the problem. By the end of the rotation the resident will be expected to be familiar with numerous possible causes of sudden unexpected death and their morphologic correlates.
9. The resident will also observe the handling and histology of endarterectomy specimens from either coronary or carotid arteries received as surgical specimens.

Objectives

A. Patient Care: Following completion of the away rotation in Cardiac Pathology, the resident should be able to competently perform the following patient care activities:
1. Be able to examine and dictate a report on a child's or adult's heart outlining the major pathologic findings and to take appropriate histologic samples bearing in mind both the diagnostic problem and the appropriate use of laboratory resources.

2. Be able to review any pertinent laboratory data e.g. echocardiograms or angiograms and interpret the findings related to the patient's condition and diagnosis.

3. Be able to discuss the case with the clinicians caring for the patient and obtain additional history required for the diagnosis.

B. Medical Knowledge: The resident will be expected to describe basic Cardiac Pathology knowledge at a textbook level and basic concepts of Cardiac Pathology for cases they have seen/signed out. In addition, residents are expected to do the following to increase his or her medical knowledge during this rotation:

1. Read and demonstrate understanding in chapters of Cardiovascular Pathology (3rd Ed, Silver et al.) related to cases seen and other significant entities of the differential diagnosis.

2. Read and discuss the literature for issues involving individual cases the resident has seen/signed out.

3. Attend cardiology conferences at United Hospital.

C. Practice-based Learning and Improvement: The resident will be expected to demonstrate life-long practice based learning and improvement with the following activities:

1. Rapidly review the literature, including the use of electronic media for anticipated difficult cases.

2. Review the literature and lead the discussion on improvement of diagnostic accuracy of basic and difficult cases.

D. Interpersonal and Communication Skills: The resident will be expected to do the following to further their interpersonal and communication skills:

1. Competently and concisely discuss any selected patient's case with the clinician or coroner and address their concerns on selected or difficult to diagnose cases.

2. Competently and concisely discuss any selected patient's case with staff and other trainees in the Registry.

3. Interact with the laboratory technician and the secretary, and other personnel in the department to facilitate safe and efficient diagnosis and care of patients.

E. Professionalism: The residents will be expected to act responsibly and with integrity towards Registry staff, other clinicians, other trainees, laboratory technicians, departmental secretaries, and other departmental personnel throughout their away rotation. In addition, residents are expected to:

1. Show sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

2. Have a commitment to ethical principles including the confidentiality of patient information.

F. Systems-based Practice: Residents should demonstrate an awareness of and responsiveness to the needs of the larger health care system as it relates to patient care. Residents should:

1. Interact and participate in hospital initiatives to improve quality and efficiency in the laboratory as it relates to processing of patients' specimens.
2. Discuss systems-based problems as they pertain to patient care with the individual staff on the rotation and at any pertinent conferences held while the resident is on rotation.

Assessments

The following methods are used to assess the residents' achievement of educational objectives and competencies during their away rotation in Cardiac Pathology:

1. Staff Evaluations (Patient Care, Medical Knowledge, Practice-based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, Systems-based Practice).
2. Conference and lecture attendance records (Practice-based Learning and Improvement, Interpersonal and Communication Skills, Professionalism).
3. Case logs (Practice-based Learning and Improvement).
4. Annual Resident In Service-Examination (Medical Knowledge).

Educational Resources Available