

AS 11-17-17

## Transplantation Infectious Diseases Consultative Service at the Mayo Clinic

### A. Overview:

The transplantation infectious diseases consultative service is a busy inpatient and outpatient solid organ transplant consultative service conducted by Mayo Clinic infectious diseases attendings at the Mayo Clinic.

The population served by this clinical service are patients referred for evaluation for solid organ transplantation, mainly for liver transplant, and patients seen during their hospitalization and post hospitalization for follow-up and for evaluation of potential infectious complications of their transplantation.

The infectious diseases subspecialty resident on the transplantation rotation is taught how to perform high quality consultations with consideration for the potential expanded spectrum of infections and presentation of those infections in an immunosuppressed transplantation patient. All consultations are completed and communicated within 8 hours of the consultative request. The ID fellow performs the new consultations initially on his own, the consultation is then presented to the attending ID physician for discussion and review of the clinical and supportive findings. Following this thorough discussion and review, impressions and recommendations are formulated for the completed consultation. Continuing follow-up of consulted patients is accomplished through daily infectious disease rounds, which are geared not only towards patient care, but also towards teaching of transplantation related infectious diseases.

### B. Goals and Objectives for effective consultation

The goal is to teach the fellows to become competent and effective infectious disease consultants. To that end the following objectives should be attained.

1. being able to obtain a clear reason for the consultation request;
2. being able to establish the urgency of the consultation;
3. being able to introduce oneself to the patient and explain the consult diplomatically;
4. being able to review the history pertinent to infectious diseases in the context of an immunocompromised transplantation patient;
5. being able to examine the patient thoughtfully with emphasis on the infected or potentially infected parts of the body;
6. being able to obtain or help to obtain the necessary microbiological studies;
7. being able to comprehensively review other additional data needed to formulate a working diagnosis;
8. being able to formulate clear recommendations and contingency plans in anticipation of complications;

9. being able to explain to the patient and physician what the thinking is, and if necessary the need for follow-up;
10. being able to interact with consult attendings and subspecialty transplantation surgeons in a tactful, respectful and effective manner.

### **C. Competency based objectives**

PGY 5

#### Patient Care

- Demonstrate effective communication with patients and their families in an appropriate and compassionate manner.
- Gather essential and accurate information about the patient, including travel history, history of exposure to infections, and history of allergic reactions to antibiotics.
- Perform thorough physical examination of the patient, including all areas appropriate to the patient's presentation.
- Obtain all necessary medical information by chart review, discussion with the requesting service and contact with the patient's primary care provider.
- Identify symptoms and signs consistent with an infectious process.
- perform procedures correctly to obtain infectious material for staining and culture.
- Provide patient education about the treatment and prevention of infection.
- Establish outpatient clinic follow-up appointments as indicated.
- Discuss the diagnosis and treatment of common and uncommon infections as they present in the immunocompromised transplantation patient.
- Discuss application of the syndrome approach in common and uncommon infections as they present in the immunocompromised transplantation patient

#### Medical Knowledge

- Demonstrate the clinical knowledge of the basic and clinical sciences underlying infectious diseases and microbiology as it applies to the transplantation patient;
- Access and critically evaluate current medical information and scientific evidence relevant to patients' illnesses;
- Discuss the syndrome approach to infectious diseases diagnosis;
- Explain the use of antigen detection, serology, and molecular methods in the diagnosis of infectious diseases;
- Discuss the indications for radiological imaging in the diagnosis of infectious diseases;
- Discuss the basic principles of infectious diseases epidemiology;
- Explain basic principles of immunology and inflammation;

- Discuss the presentations of infectious diseases in the transplantation patient as they relate to the degree of immunosuppression and the post transplantation period;
- Explain the spectrum of activity of antimicrobial agents.

#### Practice-Based Learning and Improvement

- Demonstrate an organized approach to the evaluation and treatment of infectious diseases in the transplantation setting.
- Demonstrate the use of information technology to assist in education and information management.
- Locate, evaluate and incorporate evidence from scientific databases, guidelines and studies related to infectious disease problems.
- Identify deficiencies in one's knowledge, skill and attitudes in the care of the patient with an infectious disease.
- Develop strategies for correcting deficiencies in one's knowledge, skills and attitudes in the care of the patient with an infectious disease.
- Review outcomes of patients cared for by the Infectious Diseases service.
- Evaluate the requesting physician's satisfaction with the services provided by the Infectious Diseases service.
- Facilitate the learning of students and other health care professionals.

#### Interpersonal Skills and Communication

- Communicate with patients and their families in a sensitive and effective manner;
- Communicate effectively with the consultant or consulting service to establish the reason for the consultation and the level of management desired;
- Communicate with the patient's primary care provider early and as often as necessary;
- Complete a legible and concise consultation note with clear recommendations;
- Ensure that all questions asked by the consultant or consulting team have been answered satisfactorily;
- Communicate the plan of care with the nursing staff and other members of the health care team; and
- Educate student and resident colleagues.

#### Professionalism

- Demonstrate respect, compassion, and integrity in all interactions with patients, families, colleagues and members of the health care team;
- Demonstrate a commitment to excellence and ethical principles of care;
- Discuss information with the about their disease and consent to their treatment plans;
- Maintain confidentiality of patient information; and
- Discuss differences of opinion among the members of the health care team in an acceptable manner.

### Systems-Based Practice

- Assist the consultant or consulting service in the coordination of the patient's care;
- Practice cost-effective health care and resource allocation that does not compromise quality of care;
- Discuss the relationships among the various elements of the health care system;
- Assist the patient in dealing with the complexities of the health care system;
- Establish outpatient infectious diseases clinic follow-up for patients as indicated;
- Describe the requirements and mechanisms of epidemiologic reporting of an infectious disease to the appropriate agency.

### Knowledge to be assessed

The resident should have knowledge and understanding of the following medical illnesses, conditions, and principles (though not exclusively):

Practical approach to infectious disease consultation	Infections in transplant recipients
Community-acquired pneumonia	Neutropenic fever
Nosocomial pneumonia	Epidemiology and infection control
Tuberculosis	Hospital acquired infections
Sepsis and septic shock	Line-associated infections
Endocarditis	Post-partum infections
Fever of unknown origin	Infections in the ICU
Evaluation of patient with fever and rash	Candidiasis
Meningitis and encephalitis	HIV
Intraabdominal infections	Opportunistic infections in AIDS
Urinary tract infections	Sexually transmitted infections
Osteomyelitis	Principals of microbiological diagnosis
Septic joint and prosthetic joint infections	Principals of antimicrobial therapy
Skin and soft tissue infections	
Necrotizing fasciitis	

### Methods of achieving objectives

- Direct inpatient consultation
- Teaching rounds with the attending physician on the ID service
- Presentation of new patient consultation, assessment and plan to the attending physician on the ID service
- Attendance and discussion at didactic core lectures (the ID "core curriculum")
- Attendance and discussion at microbiology rounds (three mornings per week)

- Attendance and participation at division conferences including but not limited to: case conferences, board review conferences, journal clubs, Med-Peds conferences, HIV topical reviews, TB conferences, Research conferences, travel and tropical medicine conferences and transplant ID conferences.
- Reading in recommended texts and journals (Harrison's Principles and Practice of Internal Medicine; Mandell, Douglas and Bennett's Principles and Practice of Infectious Diseases, Clinical Infectious Diseases Journal)
- Electronic databases and computerized resources (UF databases, Up To Date, ID resource CD set)

### **Assessment tools**

- Attending physician will monitor the quality of patient consultative evaluation.
- Attending physician will assess the quality of case presentations.
- Attending physician will critique the subspecialty resident's assessment and plan.
- Attending physician will observe the resident's interactions with patients and staff.
- Attending physician will determine evidence of the resident's self-directed learning and reading (during rounds, microbiology rounds, case presentations and division conferences, didactic sessions, or MKSAP question reviews.)

### **Evaluation process**

- Goals and Objectives will be reviewed with the subspecialty resident at the beginning of each rotation.
- The subspecialty resident will sign the attestation statement verifying receipt of goals and objectives.
- The attending physician will provide verbal feedback to the subspecialty resident throughout the rotation period.
- The attending physician will provide verbal feedback to the subspecialty resident at the completion of the rotation.
- The attending physician will complete the subspecialty resident evaluation form and review the form with the subspecialty resident at the conclusion of the rotation.
- The subspecialty resident will sign the attestation statement verifying review of the evaluation form.
- The evaluation will be submitted to the Administrative Office for review by the PD and monthly review of progress at the 3d Tuesday monthly PD-subspecialty resident mentoring session.