

Advanced Course in Pathology

Lecture/Lab. Academic year 1,2 credits 2,4

[Keywords] General pathology, oral and maxillofacial pathology, pathologic diagnosis

[Academics] Yoshihiro Abiko, Jun Sato, Koki Yoshida

[Course aims]

This course deals with general pathology, oral and maxillofacial pathology, and pathologic diagnosis. In general pathology, the diseases are categorized into six or seven groups for easy understanding. In oral and maxillofacial pathology, students are expected to understand the diseases affecting the oral and maxillofacial regions based on their knowledge of general pathology. Pathologic diagnosis traditionally refers to the microscopic examination of various forms of human tissue. In addition to the traditional approach, students are expected to understand principles of molecular biology and techniques for diagnosis.

[Course objectives]

The goals of this course are for students to be able to:

- (1) Explain the etiology and pathogenesis of diseases based on knowledge of general pathology.
- (2) Explain the diseases affecting the oral and maxillofacial region based on knowledge of general pathology.
- (3) Explain a pathologic diagnosis using morphologic approaches.
- (4) Explain a pathologic diagnosis using molecular biology approaches.
- (5) Acquire the morphologic techniques for pathologic diagnosis.
- (6) Learn the techniques used in molecular biology for pathologic diagnosis.

[Course content]

Class	Theme	Content	Academics
1	Classroom lectures.	general pathology, oral and maxillofacial pathology, pathologic diagnosis	Yoshihiro Abiko Jun Sato Koki Yoshida
2	Laboratory courses focused on understanding morphologic approaches and learning the techniques involved in pathologic diagnosis.	1) Cytologic diagnosis (sample collection, fixation, staining, examination). 2) Tissue diagnosis (sample preparation, cutout, staining, examination). 3) Special and immunohistochemical staining (uses and purposes, techniques, evaluation). 4) Techniques for cryosection and electron microscopy (sample preparation, cutout, staining).	Yoshihiro Abiko Jun Sato Koki Yoshida
3	Laboratory courses focused on understanding approaches used in molecular biology and learning the techniques used for pathologic diagnosis, including reverse transcription-polymerase chain reaction (PCR), methylation-specific PCR, fluorescent in situ hybridization, western blot, and DNA sequencing methods.		Yoshihiro Abiko Jun Sato Koki Yoshida

[Class implementation method]

Combination of face-to-face learning and distance learning

\* Class implementation depends on the implementation policy of each department (graduate school), interdisciplinary studies, and school.

[Grading policies]

Your overall grade in class will be decided based on class attendance and reports.

[Textbook]

Students will be informed of which textbook to use.

[Reference book]

Students will be informed of which reference book to use.

[Preparation for course]

Students must understand the course objectives and prepare appropriately for their classes.