Category （科目区分）	Cluster of Inflammation and immune system		
Course Title （授業科目名）	Inflammology I / Clinical training		
Instructors （担当者名）	Kazuhiro Imai	Academic Year （配当年次）	1
Required Course / Elective Course （必修/選択）	Elective Course	Credits （単位数）	1
Class Format （授業形態）	Lecture, Research training		
Schedule （開講期間）	emai to the student		
Class Date/Period （開講曜日・時間）	emai to the student		

Course Outline/ Course Objectives（授業の概要・到達目標）

Course Objectives: This course aims to provide a comprehensive understanding of the current status and future perspectives of Immuno-Oncology (IO) therapy in lung cancer. Furthermore, students will examine the clinical guidelines in the field of thoracic surgery and the integration of immunotherapy into surgical oncology practice.

Learning Outcomes: Upon completion of this course, students will be able to:
・Explain the mechanisms and clinical applications of Immuno-Oncology (IO) therapy in lung cancer.
・Demonstrate a thorough understanding of the latest thoracic surgery guidelines.
・Implement evidence-based immunotherapy strategies in the clinical management of lung cancer.

Course Descriptions:
Sessions 2-5: The Evolution and Clinical Development of IO Therapy
The progress of Immuno-Oncology (IO) therapy in lung cancer is a history of both innovation and rigorous trial and error. The Phase III CheckMate-026 trial, which evaluated the first-in-class immune checkpoint inhibitor (ICI) nivolumab as a first-line monotherapy for non-small cell lung cancer (NSCLC), failed to demonstrate superiority in progression-free survival (PFS) over chemotherapy. This outcome highlighted the inherent challenges in clinical development.
In contrast, the KEYNOTE-024 trial for pembrolizumab successfully demonstrated a significant extension of PFS by narrowing the target population to patients with a PD-L1 expression (TPS) of 50% or higher. The divergence between these two landmark trials underscores the critical importance of patient selection based on appropriate biomarkers. This section provides an overview of this developmental history, discusses the current clinical positioning of ICIs, and explores the prospects for personalized medicine. (Instructor: Imai)

Sessions 6-10: Modern Thoracic Surgery Guidelines and Perioperative Immunotherapy
This section delves into the latest thoracic surgery guidelines for lung cancer management. A primary focus is the current paradigm shift in perioperative pharmacotherapy: the combination of ICIs and cytotoxic chemotherapy. Phase III trials, such as CheckMate-816, have demonstrated high pathological complete response (pCR) rates and significant improvements in event-free survival (EFS) in the neoadjuvant setting, establishing new standards of care.
A defining characteristic of ICIs is the "long-term tail-off effect," where therapeutic benefits persist even after treatment discontinuation, resulting in a plateau in the survival curve. Our department is investigating the immunological mechanisms and cellular dynamics underlying this sustained effect using a world-first "drug-inducible PD-1 lineage-tracing mouse model." This section reviews the latest clinical evidence and discusses the future of perioperative immunotherapy from the perspective of translational research. (Instructor: Imai)

Course Planning (授業計画)

	Course Outline/ Course Objectives(授業の概要及び到達目標) (Contents of Class) ((授業内容))	Instructor (担当教員名)	Department (講座名) Class Room 〔実施場所〕
1	Outline (about report)	Kazuhiro Imai	Department of Thoracic Surgery 〔 Conference room 〕
2	Current Status of Immuno-Oncology (IO) Therapy in Lung Canc	Kazuhiro Imai	
3			
4			
5			
6	guideline for chest surgery	Kazuhiro Imai	
7			
8	Future Outlook and Emerging Paradigms of Perioperative IO Th	Kazuhiro Imai	
9			
10			

Grading Criteria (成績評価の基準と方法)

30 hours of experimental training in the seminar room + 15 hours of self-study, 45 hours in total is counted as 1 credit, attendance status, the results of the oral and written examinations and the contents of the submitted report will be taken into consideration to evalue.

Contact Information (問い合わせ先(氏名, メールアドレス等))

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Comment (その他特記事項)

Please let us know if the student can not attend course, especially working graduate students.
Instructors will distribute the textbook, handouts, referenced reports.
The student should prepare for this course.