



MODELLING ACUTE AND CHRONIC INFLAMMATORY DISEASES IN ANIMALS

SEPTEMBER 17TH-19TH, 2013
RIO DE JANEIRO, BRAZIL



PRACTICAL COURSE

There will be approximately 30 people participating (5 groups of 6 and the following activities are planned:

		PRACTICAL COURSE 1	PRACTICAL COURSE 2	PRACTICAL COURSE 3	PRACTICAL COURSE 4	PRACTICAL COURSE 5	PRACTICAL COURSE 6
DAY 1	MORNING THEORY						
	14.00-16.00	GROUP A	GROUP B	GROUP C	GROUP D	GROUP E	GROUP F
	16.30-18.30	GROUP B	GROUP A	GROUP D	GROUP C	GROUP F	GROUP E
DAY 2	MORNING THEORY						
	14.00-16.00	GROUP E	GROUP F	GROUP A	GROUP B	GROUP C	GROUP D
	16.30-18.30	GROUP F	GROUP E	GROUP B	GROUP A	GROUP D	GROUP C
DAY 3	MORNING THEORY						
	14.00-16.00	GROUP C	GROUP D	GROUP E	GROUP F	GROUP A	GROUP B
	16.30-18.30	GROUP D	GROUP C	GROUP F	GROUP E	GROUP B	GROUP A

PRACTICAL COURSE: FIOCRUZ AND UFRJ

- Practical 1** - Sepsis (CLP model) (Hugo Faria Neto - TARKINAID)
- Practical 2** - Pneumonia and malaria (Hugo Faria Neto - TARKINAID)
- Practical 3** - COPD and silicosis (Patrícia Silva and Marco Martins - TIMER)
- Practical 4** - Asthma and acute lung injury (Patricia Rocco - TARKINAID)
- Practical 5** - Arthritis and pain (Thiago Mattar Cunha and Jhimmy Talbot - TIMER)
- Practical 6** - Models of resolution of inflammation (Flavio Amaral - TIMER)





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Practical 1 - Model of Sepsis (CLP) (FIOCRUZ)

Objective: discuss how to develop and evaluate inflammation in experimental sepsis show the surgery and animals 24 h after surgery

- show techniques of anesthesia and pain control, how to do the peritoneal lavage and collect blood samples;
- show how to perform clinical score evaluation;
- show how to prepare cytospin slides and perform total and differential cell counts.

Practical 2 - Model of Pneumonia and Malaria (FIOCRUZ)

Model of Pneumonia

Objective: discuss how to develop and evaluate inflammation in experimental model of pneumonia

- show how to prepare bacteria inoculum and how to perform tracheal instillation to induce pneumonia;
- show how to perform BAL and remove lungs for processing (EPO, ELISA, FACS and histology);
- show how to perform clinical score evaluation.

Model of Malaria

Objective: discuss how to develop and evaluate inflammation in experimental model of malaria

- show how to prepare Plasmodium berghei inoculum and how to infect animals;
- show how to perform SHIRPA score evaluation to detect cerebral malaria;
- show how to count parasitemia;
- show how to remove brain for processing (histology, immunocytochemistry, edema).

Practical 3 - Modeling silicosis (FIOCRUZ)

Objective: discuss the basic concepts of setting up and evaluating inflammation and remodeling in experimental model of silicosis.

- Show how to induce silicosis: anaesthetize the animals to perform intranasal instillation of silica particles;
- To evaluate airway hyper-reactivity (measurement of PENH, lung resistance and elastance);
- To evaluate lung cellularity by bronchoalveolar lavage (procedures of lavage, total and differential cell counts);
- To analyze lung histology (removal and processing of the lung tissue for quantification of silica particles as well as assessment of pathological features of silicosis, including granuloma, fibrosis and leukocyte accumulation).





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Practical 4 - Models of asthma and acute respiratory distress syndrome (UFRJ)

Objective: discuss the basic concepts of setting up and evaluating inflammation and remodeling in experimental models of asthma and acute respiratory distress syndrome.

- We will have already developed the models of asthma and acute respiratory distress syndrome to show the mechanical and histological changes;
- show how to prepare models of asthma (ovalbumin) and acute respiratory distress syndrome (endotoxin);
- show how to measure lung mechanical changes with different techniques (invasive and non-invasive);
- show how to remove the lungs for morphometry, ELISA;
- show how to perform the BAL, prepare cytopsin slides and perform total cell counts.

Practical 5 - Model of arthritis and pain (FIOCRUZ)

Objective: discuss the basic concepts of setting up and evaluating inflammation and functional changes in the joint.

- show how to prepare the model of arthritis and pain through intra-knee injection, evaluation of edema, nociception ("pain"), leukocyte influx. At 8:00 – inject MSU or another stimulus in the joint
- show how to evaluate inflammatory nociception (first evaluate for all animals and then show people and let them do it);
- show how to measure edema (limitation is that one needs much more inflammation to see changes);
- show injection in separate mice (use 5 mice – not injected previously but that will be available for the experiments - and show them how to wash) – use both knees for injection and anesthetize the animals before the experiment – in these mice, show how to wash, show how to remove tissue for processing and histology;
- show how to prepare cytopsin slides and perform total cell counts.

Practical 6 - Model of resolution of inflammation (UFRJ)

Objective: discuss the basic concepts of studying resolution of inflammation.

- show how to prepare a model of resolution of inflammation. Advantages of using different locations. Use of a pleural model system (LPS-induced inflammation and resolution by steroids) to investigate resolution;
- show injection in separate mice and show how to wash, show how to remove samples for processing;
- show how to prepare cytopsin slides and perform total cell counts and evaluation of apoptosis



Organization and Graphic project by: