"AT and radiation" workshop
7-8th November 2013 – Clermont-Ferrand – France

Organized by Association pour la Recherche sur l'Ataxie Telangiectasique (APRAT) and the Radiobiology Group of UMR1052 Inserm Unit

Ataxia telangiectasia (AT) is a syndrome associated with the highest degree of radiosensitivity in humans. As it also confers a high risk of lymphoma, a number of homozygous AT patients treated with radiotherapy in the 70s demonstrated striking adverse effects, leading to death. While AT is a very rare disease (1/100000), a number of other syndromes that are more common show both radiosensitivity and an elevated risk of cancer. This raises important questions about the impact of individual factors in anti-cancer treatments. In parallel, heterozygous ATM carriers, who represent a small but significant percentage of the general population and have an increased cancer risk, also raise questions about the impact of individual factors in radiodiagnosis and in the biological response to low-dose radiation. There is currently emerging evidence that radiosensitive and cancer-prone individuals in general, and AT patients in particular, should logically receive lower doses of ionising radiation and be offered alternative non-ionising tests.

For the last two years, the French National Nuclear Safety Authority has encouraged studies about individual radiosensitivity. How to better evaluate the risks of radiosensitive tissue reaction and of radiation-induced cancer? How to limit exposure to radiation whilst ensuring the same level of anti-tumour efficiency and quality of tumour diagnosis? Is it necessary to refine the existing recommendations? This will be one of the major questions raised during this workshop. The first day will be devoted to new advances in the molecular and cellular roles of the ATM protein. On the second day, clinicians (paediatricians, oncologists, radiologists, radiotherapists) and officials from institutions will discuss these translational features.

7th November 2013

14:45 Welcome - Introduction *(M Gervasoni; R Cassou de Saint-Mathurin; N Foray)*

SESSION 1: AT and human radiosensitivity

15:00 History of AT and ATM – *R Gatti (UCLA, USA)*

15:40 Radiosensitivity and the radiation-induced nucleo-shuttling of ATM - *N Foray, L. Bodgi (Inserm, Lyon, France)*

16:20 Break

SESSION 2: AT and genomic instability

16:50 ATM, BRCA1, BRCA2 and CHK2 mutations: an overview of genomic instability - *N Uhrhammer (CJP, Clermont, France)*

17:20 Interaction between INT6/EIF3E and ATM : impact on breast cancer - P Jalinot (ENS, Lyon, France)

17:50 Discussion

18:15 End of session

19:30 Reception at theTown Hall

8th November 2013

SESSION 3: Molecular epidemiology and genetic aspects of ATM

9:00 AT variants and oxidative stress control – *G. Rieunier (Curie, France)*

9:30 Genetics aspects of AT – The CoF-At cohort – *E.Cavaciuti/N. Andrieu (Curie, France)*

10:00 Break

SESSION 4: Clinical aspects of AT – Clinical management

10:30 Overview of the diversity of clinical AT features and some cases of adverse effects - *AMR Taylor (Birmingham, UK)*

11:10 Treatment recommendations for immune deficiency - *A Exley (Papworth.nhs.uk)*

11:40 The AT clinic – an example of management - *S Mohnish (AT clinic, UK)*

12:10 Lunch

SESSION 5: Clinical aspects of AT – High doses

13:30 Elements of radiopathology - JJ Lataillade *(Army Hospital Percy, France)*

14:00 Pathological radiotherapy reactions in paediatrics– the ARPEGE project*? (G. Vogin, CAV, Nancy, France)*

SESSION 6: Clinical aspects of AT – Low doses*)*

14:30 ATM and the hypersensitivity to low-dose phenomenon - *MC Joiner (USA)*

15:10 Breast Cancer Screening in England - *L Izatt (UK)*

15:40 Mammography and high-risk patients - *C Colin (HCL, Lyon)*

16:10 Break

SESSION 7: Consensual radioprotection for AT?

16:40 Taking into account individual radiosensitivity? The scheme for a future approach - M Bourguignon (ASN, France)

17:20 Debate

18:00 End of session