THE ASTRA STUDY: ADJUVANT SELUMETINIB FOR DIFFERENTIATED THYROID CANCER (DTC); REMISSION AFTER RADIOIODINE

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Background/Purpose: Selumetinib (AZD6244, ARRY-142886) is an orally available, potent and selective MEK1/2 inhibitor that has a manageable tolerability profile as monotherapy. Recent clinical data demonstrate that selumetinib enhances radioiodine (RAI) incorporation in a subset of patients with RAI-refractory thyroid cancer (Ho et al. N Engl J Med 2013;368:623–632).
Methods: The ASTRA study is a randomized, double-blind study that will recruit 228 patients with a new diagnosis of DTC. Eligible patients will have one of: large primary tumour, extrathyroidal extension, or clinically significant macroscopic lymph node metastases. These criteria describe a patient population 'at high risk of primary treatment failure' with an approximate remission rate of 30% after initial therapy. Following total thyroidectomy, patients will be randomised to receive selumetinib 75 mg twice daily or placebo approximately 4 weeks prior to the administration of 100 mCi radioiodine (^{131}I) with recombinant human TSH stimulation. Selumetinib will be continued until 5 days following RAI.
Results: The primary objective is to assess the complete remission rate at 18 months after RAI. A co-primary analysis will be performed in patients with *BRAF* or *NRAS* mutation-positive tumours.
Discussion & Conclusion: This is the first randomized study to assess the efficacy, safety, and tolerability of a short course of selumetinib together with RAI following thyroidectomy in patients with DTC. Results from this study will determine whether the remission rate in intermediate- and high-risk DTC patients can be increased by the addition of selumetinib to the existing standard of care.