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INFLUENCE OF FIRST-LINE EGFR THERAPY ON SURVIVAL AND MORTALITY RATES IN NON-SMALL CELL LUNG CANCER

Cristina Pérez Ramírez[1], Marisa Cañadas Garre[1], Rodrigo López Castro[2], Ángel Concha López2, Miguel Ángel Calleja Hernández[1]
[1]Pharmacogenetics Unit. Pharmacy Service. [2]Pathology Department.
Hospital Universitario Virgen de las Nieves. Avenida de las Fuerzas Armadas nº2.18014.Granada.Spain

Background

The efficacy of chemotherapy has reached a plateau for advanced non-small cell lung cancer (NSCLC). Mutations in the *epidermal growth factor receptor* (EGFR) are associated with sensitivity to reversible EGFR tyrosine kinase inhibitors (TKIs).

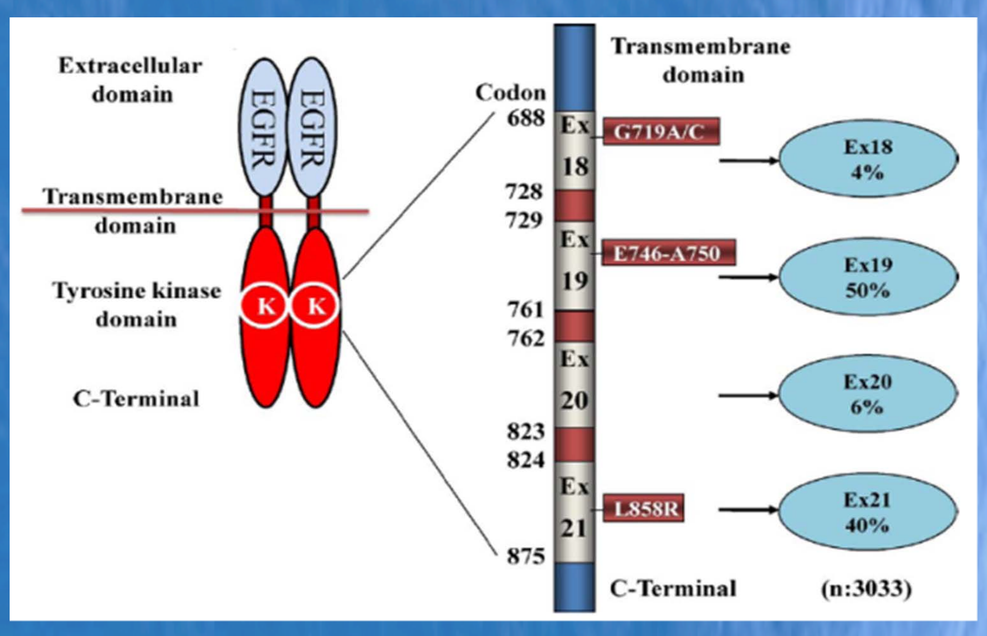

Fig.1. Frecuency of EGFR mutations in NSCLC (n=3033)

Results

Patients mean age was 62±12 years;32 male (32/61;59%);70%(43/61) smokers/ex-smokers; 60%(37/61) stage IV;38%(23/61) mutated EGFR.

An EGFR-TKI was prescribed as first-line therapy in 15 out of 61 patients (25%), all with mutated EGFR, the 53% died (8/15) and 2 out of 15 (13%) were treated with chemotherapy as second line therapy. The OS was 17,57±7,84.

Chemotherapy as first-line treatment was prescribed in 46 patients (46/61;75%).
8 out 46 had mutated EGFR (17%) and 29%(2/7) died. 7 out of 8 (88%) were treated with an EGFR-TKI as a second-line therapy. The other patient was treated with an EGFR-TKI as third–line therapy. The OS was 13,81±4,08.
31 out of 46 (67%) had native EGFR and 61%(19/31) died. 61%(19/31) were treated with an EGFR-TKI as second-line therapy. Of the remaining 12 patients, 11 (11/12;92%) were treated with an EGFR-TKI as third-line therapy and the other with an EGFR-TKI as fourth-line therapy.
7 out of 46 (16%) had unknown status EGFR and 43%(3/7) died. 6 out of 7 were treated with an EGFR-TKI as second-line therapy and the other was treated with an EGFR-TKI as fourth-line therapy.

The overall survival was the same in both groups p=0,45 and the stage of the disease was different p=0,05.

Purpose

Evaluate the overall survival (OS) in patients treated with EGFR-TKIs or chemotherapy as first-line treatment with EGFR mutations.

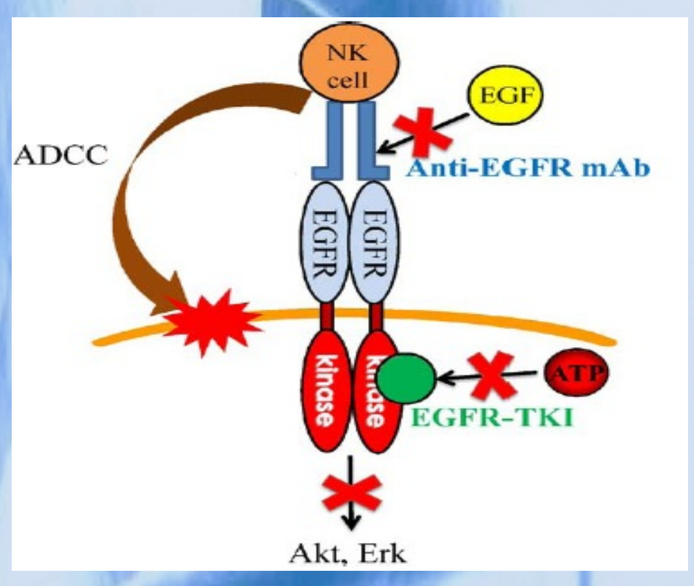

Fig. 2. Schema for how EGFR-targeted agents work. Anti-EGFR mAbs compete with ligands such as EGF at the extracellular domain of the receptor. EGFR-TKIs compete with ATP at the intracellular tyrosine kinase domain of the receptor

Material and Method

Retrospective study. Patients diagnosed with NSCLC analyzed for EGFR status during 2008-2012. Socio-demographic, clinical and pharmacological characteristics of patients were collected.

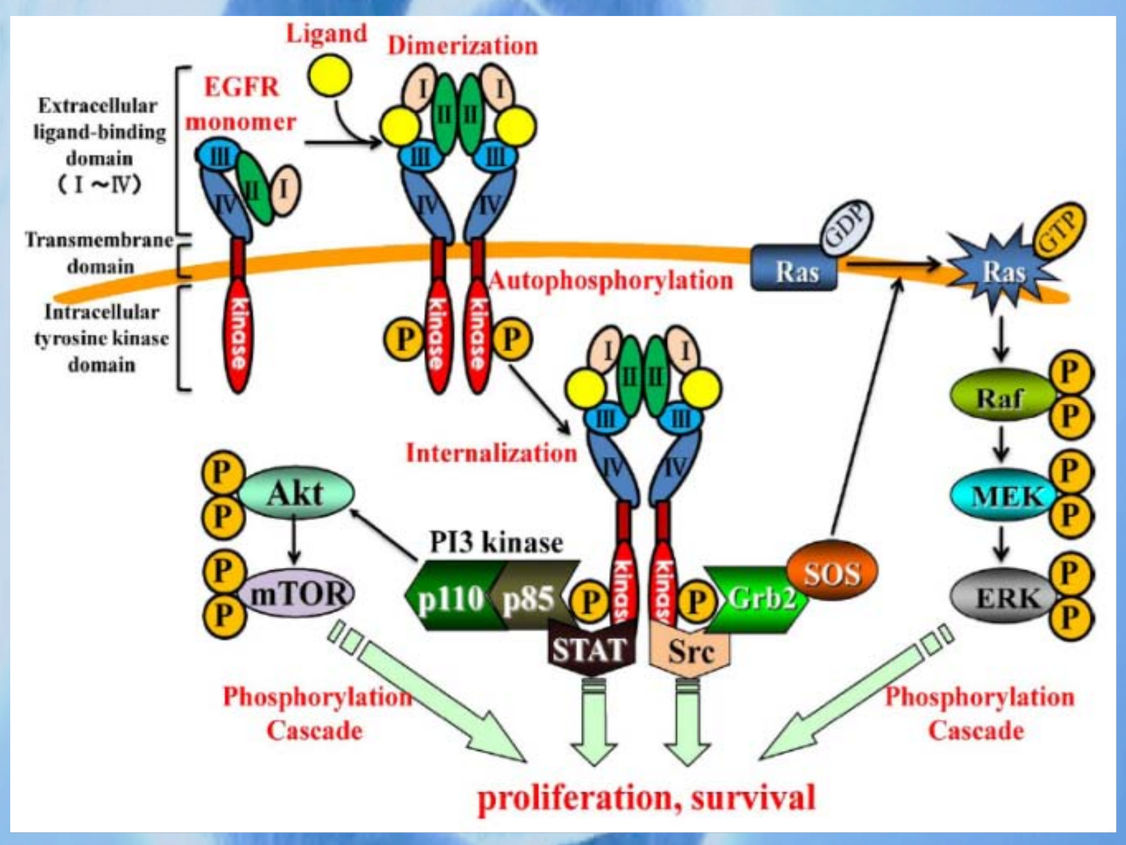

Fig.1 Schema for EGFR signaling pathways in NSCLC

Conclusions

In this population the mortality depends on the stage of the disease not of EGFR status.