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Title: EGFR exon in lung cancer: Survival predictors?

Dr. Inês 17391 Ladeira inesladeira014@gmail.com MD [1], Dr. Ana 17392 Antunes ana.oliveirinha2@gmail.com MD [1], Dr. Carla 17393 Ribeiro carlafarinharibeiro@gmail.com MD [1], Dr. Ana 17394 Barroso abarroso@chvng.min-saude.pt MD [1], Dr. Sara 17395 Conde saraconde@chvng.min-saude.pt MD [1] and Dr. Barbara 17399 Parente pneumoonc@chvng.min-saude.pt MD [1]. [1] Pulmonology, CHVNG, Vila Nova de Gaia, Portugal .

Body: EGFR mutations are associated with sensitivity to tyrosine kinase inhibitors(TKI) in patients with NSCLC.Studies point to different outcome to TKI treatment according to exon mutation. Aim:Understand how different EGFR mutations predict TKI response and affect survival. Methods: Records review of NSCLC patients with EGFR study(2006-2011). Epidemiological,clinical and outcome information was analyzed using SPSS19.0($p<0.05$). Results: Of 409 patients studied 53 were EGFR-positive. After exclusion of 1 drug-resistant patient(exon20) and patients who did not use TKI or had TKI as 1st therapeutic,22 patients were considered-50%male,67.5±9.8y,59.1%non-smokers. Progression-free survival(PFS) was better in exon 19 mutations(p0.04). Survival after TKI(STKI) was better in 18 and 19 mutated patients (no statistical difference-p0.06).

	18	19	20	21
%patients	13.6	40.9	9.1	36.4
STKI(m)	25.0(3.9-46.1)	25.4(18.2-33.3)	10.3(4.0-16.5)	11.6(5.7-17.4)
PFS(m)	22.1(0-18.8)	8.0(12.8-31.8)	7.1(5.1-9.1)	8.6(4.8-12.3)

In non-surgical stages(72.8%), exon 19 mutated patients had better global survival(GS),STKI and PFS than others ($p>0.05$).

Stages IIIB/IV

	18	19	20	21
GS(m)	23.8(0-64.8)	50.5(17.8-83.2)	34.2(8.6-60.0)	21.4(7.7-35.0)
STKI(m)	14.1,CI 0-39.6	19.8,CI 12.1-27.5	10.3,CI 4.0-16.5	11.3(4.6-16.1)

PFS(m)	10.1(0-27.4)	11.8(0.9-22.6)	7.1(5.1-9.1)	8.1(5.6-12.8)

Associating patients with exons 18 and 20(described as less predictive of therapeutic outcome) GS29.1, STKI12.2 and PFS8.6 months, all higher than values found for exon21($p>0.05$). Conclusions: Exon 19 mutation confered better prognosis to patients treated with TKI. Exons 18 and 20(22,7%) were not associated with worse prognosis than exon21. Although this is a small group we believe that is worth to maintain analysis of the 4 exon mutation.