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Cardiotoxicity of anthracyclines during treatment for acute myelo- 
denic leukaemia.

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Introduction: Cardiotoxicity in haematological diseases: are the tyrosine kinase
inhibitors imatinib and nilotinib safe?

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Methods: Single-center prospective study of consecutive patients with chronic
myeloid leukaemia treated with tyrosine kinase inhibitors during 2015. Patients
underwent an initial clinical, laboratorial and echocardiographic evaluation, re-
peated one year after therapy initiation.

Results: Eleven patients were included [60.0 (11) years, 63.6% of males; 7 pa-
tients treated with imatinib and 4 with nilotinib]. After one year of follow-up, all pa-
tients remained in functional NYHA class I, with a similar Minnesota quality of life
score [21 (20) vs. 21 (19), p = NS]. Also there was no difference in the biomarkers
evaluated: cystatin-C [0.9 (0.2) vs. 0.8 (0.2) mg/L, p = NS; NT-proBNP 46.0 (45.0)
vs. 42.0 (34.0) pg/mL, p = NS]. Previous to the TKI treatment, all patients had
normal left ventricular ejection fraction (LVEF) [[median 67% (63–69)], without
structural abnormalities. During the follow-up, there weren’t differences regarding
the LVEF, left atrium volume, E/A ratio, deceleration time, septal e’, lateral e’, E/e’
ratio and tricuspid annular plane systolic excursion. With regard to myocardial de-
formation, all patients presented normal values of longitudinal, circumferential and
radial strain in the baseline study, without changes during follow-up [DML -21.3
(6.1) vs. -21.7 (8.0)%; p = NS; DMC -20.0 (9.3) vs. -22.3 (8.3)%; p = NS; DMR
36.9 (21.3) vs. 39.2 (19.2)%; p = NS]. In addition, there were no differences be-
tween the two tyrosine kinase inhibitors used, considering all the aforementioned
variables.

Conclusion: No clinical, laboratory or echocardiographic evidence of nilotinib
and imatinib induced cardiotoxicity was observed, even when myocardial de-
formation analysis was performed. However, these results should be confirmed
in larger studies, ideally multicentre, given the low incidence of chronic myeloid
leukaemia.