

261P: Subtyping of residual disease (RD) following neoadjuvant chemotherapy (NACT) for triple negative breast cancer (TNBC): evolution and prognostic impact

Background

- RD following NACT in TNBC is associated with poor prognosis.
- TNBCtype is associated with response to NACT¹.
- Genomic subtyping of the RD may provide prognostic information.
- We analyze the evolution of TNBCtype-4 and intrinsic subtypes after NACT and its prognostic value.

Methods

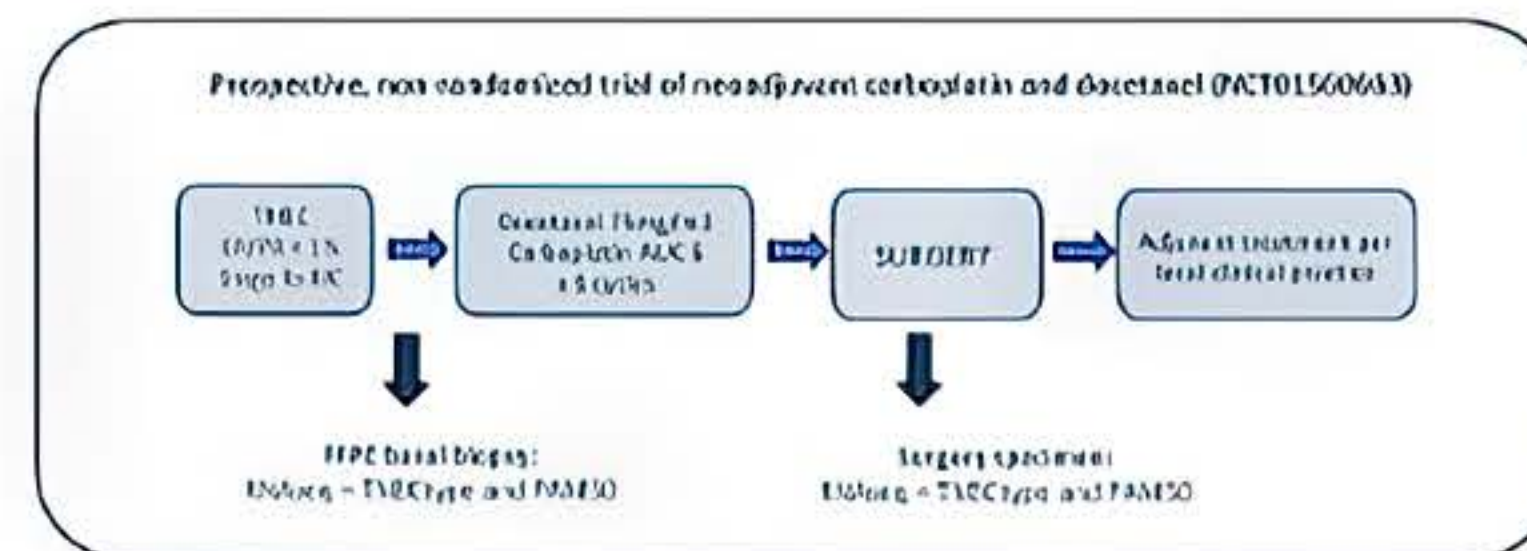


Figure 1. Study design

- TNBCtype-4 classification (basal-like 1 [BL1], basal-like 2 [BL2], luminal androgen receptor [LAR] and mesenchymal [M]) was done on the TNBCtype online tool <http://cbc.mc.vanderbilt.edu/tncb>.
- Intrinsic subtypes (LumA and B, Basal-like, HER2-E) were computed from RNAseq data³.

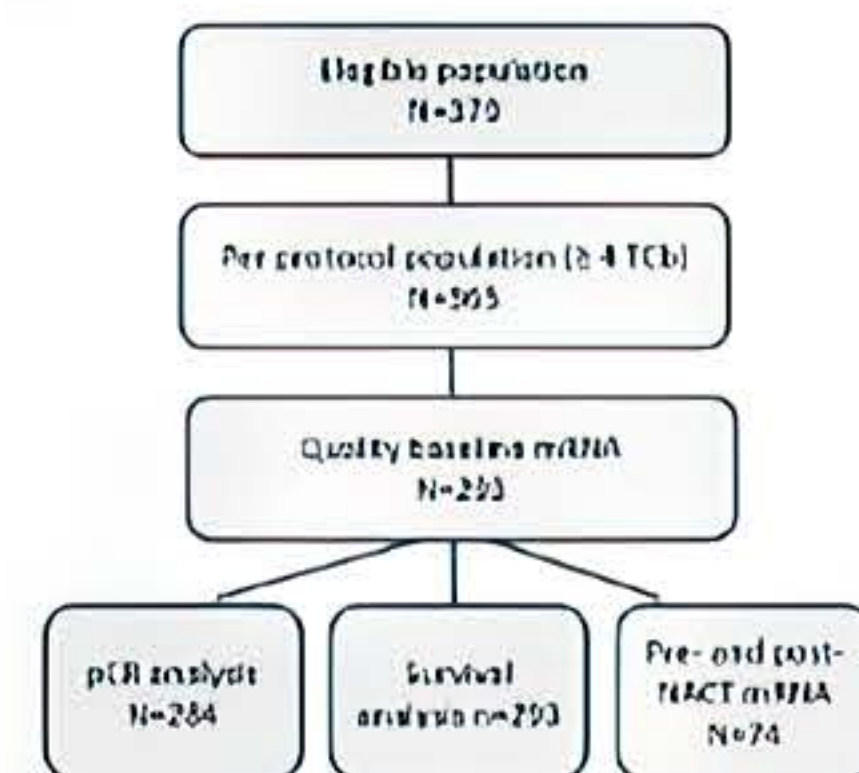


Figure 2. CONSORT diagram

Conclusions

Results

- N=74 patients with paired pre and post-NACT (64.9% with RCB-2 and 29.7% with RCB-3).
- Baseline TNBCtype-4 distribution in the patients included in this analysis was: BL1 25.7%, BL2 13.5%, LAR 17.6% and M 37.8% (figure 3).
- TNBCtype-4 distribution after NACT was 20.3% BL1, 20.3% BL2, 18.9% M, 18.9% LAR and 21.6% ER.
- Baseline intrinsic subtypes distribution was: 81.1% basal-like, 14.9% Her2E and 4.1% lumA.



Figure 3. Baseline subtype distribution. A, TNBCtype; B, Intrinsic subtypes

Correlation between pre- and post-NACT subtype:

TNBCtype:

- 55.4% of the samples changed their TNBCtype subtype (figure 4).
- LAR tumors were the most stable (76.9% concordance) as opposed to M and BL1 (32.1% and 36.8% concordance respectively).

Intrinsic subtypes:

- Intrinsic subtypes were highly concordant in the paired samples (86.5% concordance). Most of these changes occurred between non-basal subtypes.

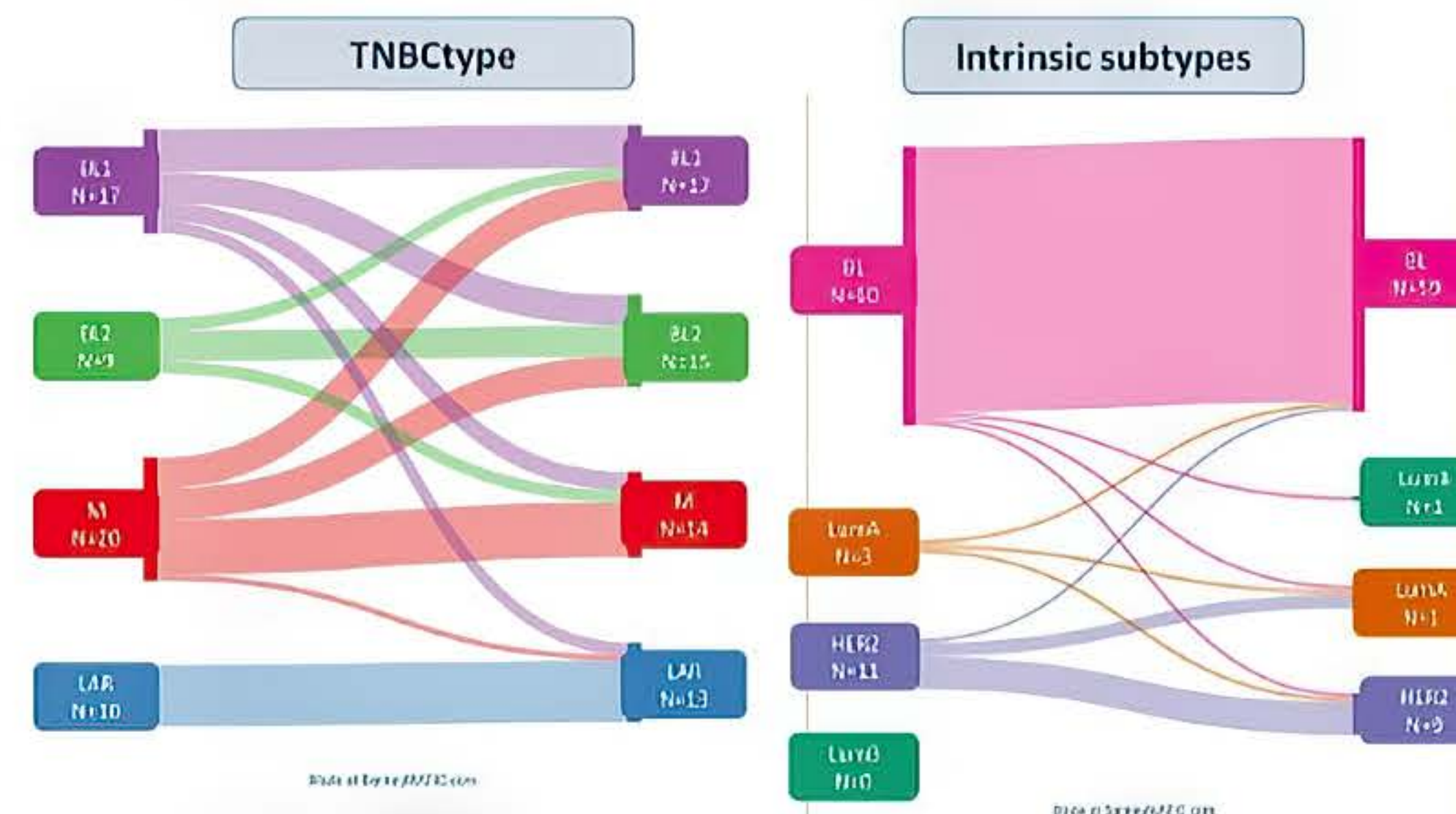


Figure 4. Correlation between pre- and post-NACT subtypes

Prognostic value of RD TNBCtype subtype:

- Median follow-up: 55 months (range: 4-138)
- 21 distant recurrences (6 lung, 5 liver, 4 lymph node, 2 central nervous system) and 18 deaths occurred.

TNBCtype:

- Post-NACT BL1 and M patients showed a trend towards a worse long-term survival as compared to BL2 and LAR patients (table 1, figure 5).

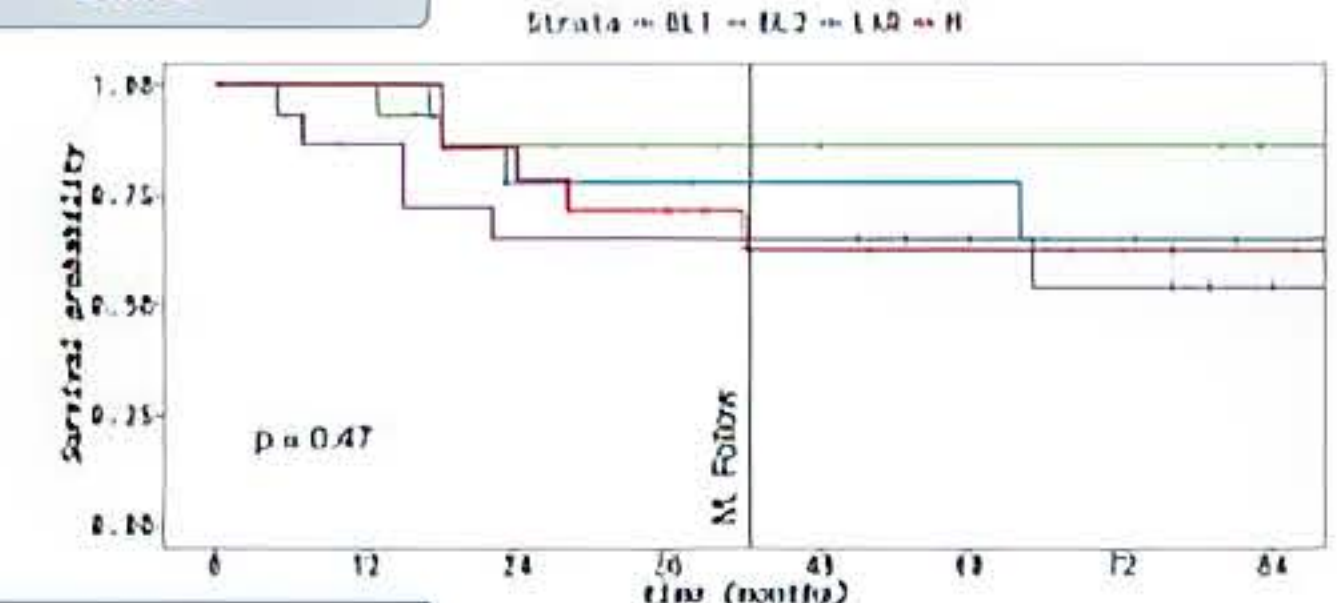
Intrinsic subtypes:

- No prognostic differences were observed between patients with basal-like (n=59) and non-basal subtypes (n=15) in the RD.

Table 1. Survival according to RD TNBCtype

	5y BC EFS	5y DRFS	5y OS
BL1	46.7%	65.0%	70.0%
BL2	86.2%	86.2%	82.5%
LAR	53.0%	77.9%	81.3%
M	56.3%	62.5%	67.5%

DRFS



OS

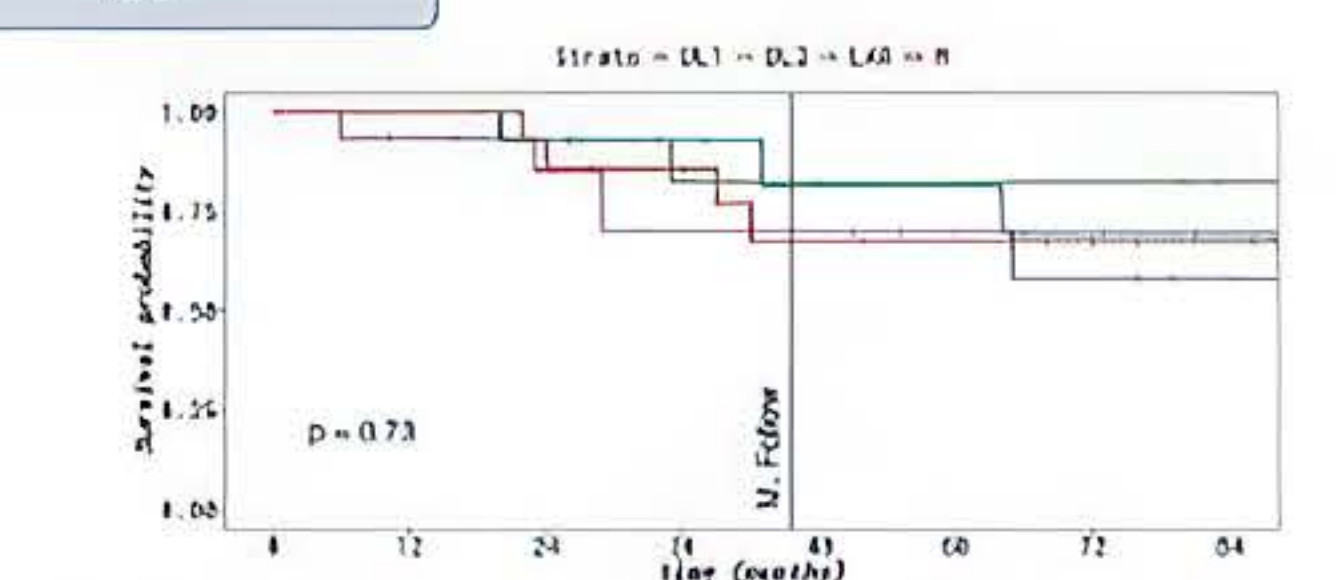


Figure 5. Survival according to RD TNBCtype

- TNBCtype-4 undergoes significant variations after exposure to NACT. LAR tumors remain the most stable.
- Subtyping of the RD provides prognostic information for TNBC patients with RD following NACT with carboplatin and docetaxel.
- Intrinsic subtypes are highly concordant between baseline and RD. No prognostic value has been observed.

REFERENCES:

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- Yau et al. Lancet Oncol 2022; 23(1):149-160
- Piccinelli et al. BMC Genomics 2019; 20:452