SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA
Azienda Ospedaliera di Reggio Emilia
Arcispedale S. Maria Nuova
Istituto in tecnologie avanzate e modelli assistenziali in oncologia
Istituto di Ricovero e Cura a Carattere Scientifico

OECI CLINICAL Cancer Centre

EUSOBI european society of breast imaging
EUSOBI Annual Scientific Meeting 2018
October 11-13, 2018

Tomosynthesis plus Digital Mammography versus Digital Mammography for Breast Cancer Screening: *The Reggio Emilia Tomosynthesis Randomized Trial*

Iotti V.[1], Campari C.[2], Giorgi Rossi P.[2], Nitrosi A.[3], Vacondio R.[1], Pattacini P.[1] and the *RETomo Working Group*

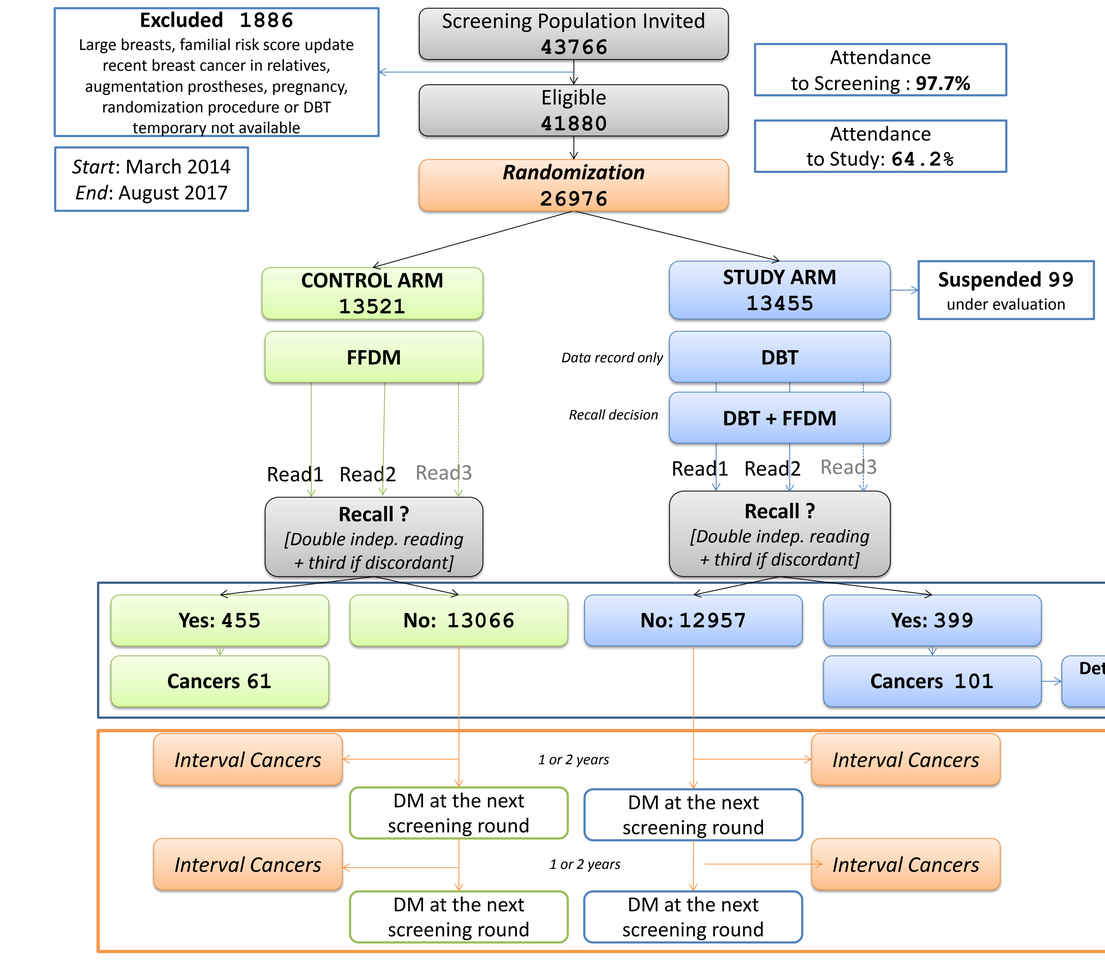
[1] *Dipartimento interaziendale di Diagnostica per Immagini e Medicina di Laboratorio, Azienda USL - IRCCS di Reggio Emilia, Italy*

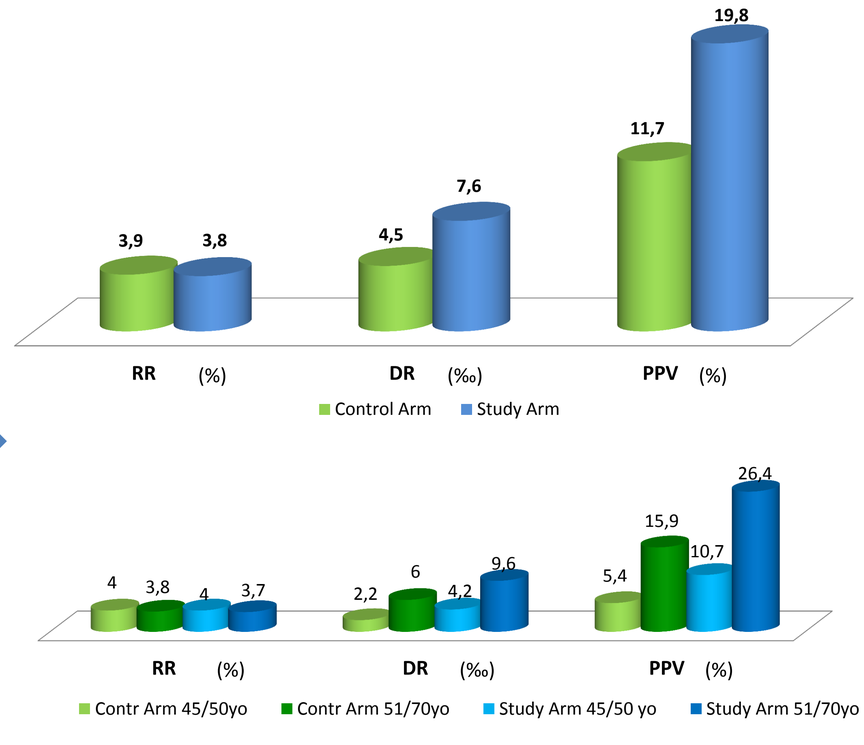
[2] *Servizio di Epidemiologia Interaziendale, Azienda USL - IRCCS di Reggio Emilia, Italy*

[3] *Fisica Medica, Dipartimento Oncologico e Tecnologie Avanzate, Azienda USL - IRCCS di Reggio Emilia, Italy*

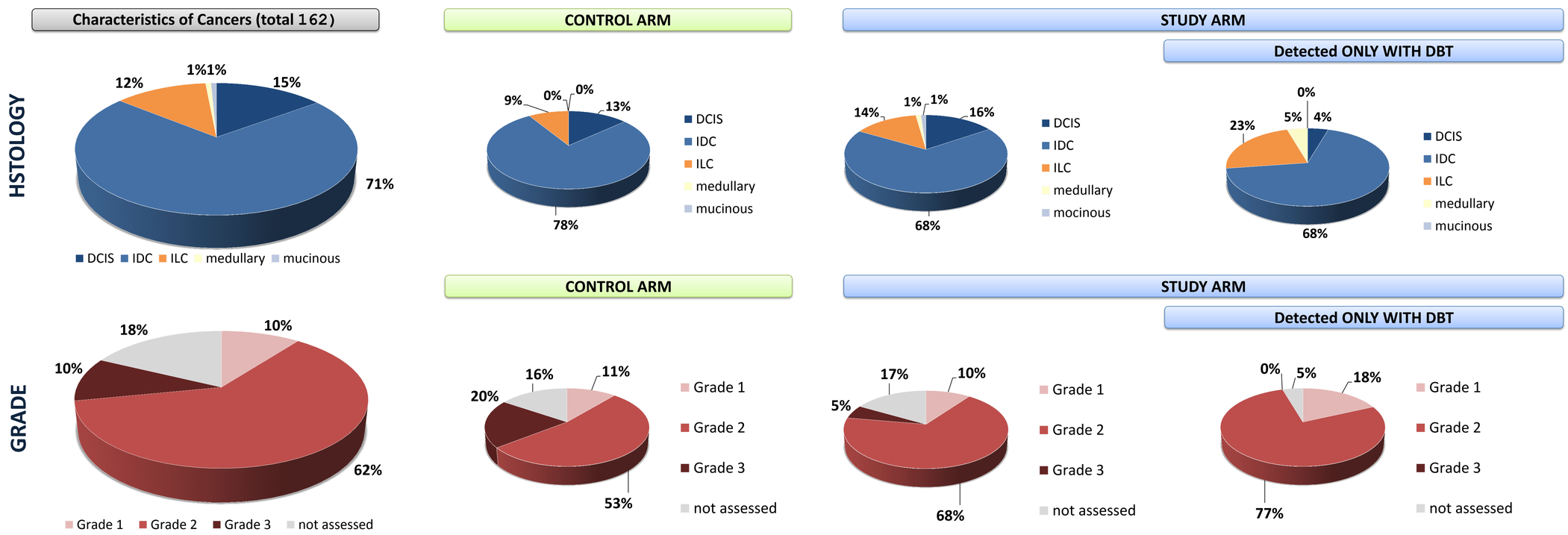
Purpose*:* The Reggio Emilia Tomosynthesis trial (RETomo) was a two-arm test-and-treat randomized controlled trial comparing digital breast tomosynthesis (DBT) plus digital mammography (FFDM) versus FFDM alone for breast cancer screening (NCT02698202). We present final baseline results.

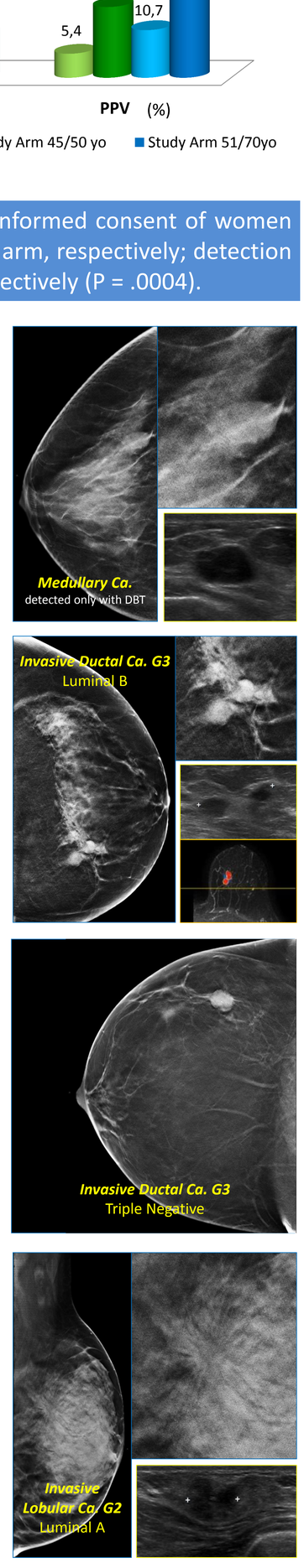
Methods*:* Women (45-70yo) presenting for a screening mammography in Reggio Emilia, and previously screened with FFDM, were asked to participate and, if willing, randomized to the experimental arm (DBT+FFDM) or to the control arm (FFDM), both with two projections and double reading. Women were assessed according to the decision at DBT+FFDM. Detection rate (DR), recall rate (RR), and positive predictive value (PPV) were determined; the ratios of these rates for DBT+FFDM relative to FFDM alone were determined.





Results*:* From March 2014 to August 2017, 13455 women were recruited to the DBT+FFDM arm of the study, and 13521 women were recruited to the FFDM arm (99 informed consent of women randomized to experimental arm, none positive for cancer, are under evaluation and not included in following). Recall rate was 3.8% and 3.9% in experimental and control arm, respectively; detection rate was 7.6 per 1000 (101 of 13356) and 4.5 per 1000 (61 of 13521), respectively (relative detection rate 1.68 [CI]: 1.22-2.30). PVV of the recalls was 19.8% and 11.7%, respectively (P = .0004).





Conclusion: The introduction of DBT to FFDM in screening strongly increased the detection rate , i.e. 68%.
The increase has been obtained without any increase in recall rate and consequently PPV was improved.
Only data on following screening rounds can say to what extent this higher detection rate has an impact on prognosis.

corresponding author: **valentina.iotti@ausl.re.it**