

影響乳房密度改變的原因

114.9.
邱鈺婷

- 影響乳房密度改變的原因很多，主要與荷爾蒙、年齡、生活方式及健康狀況有關，常見包括：
 - **年齡**
 - 年輕女性乳腺組織比例通常較高，密度也較高。
 - 隨著年齡增加，乳腺組織逐漸被脂肪取代，密度通常降低。
 - **荷爾蒙影響**
 - 雌激素與黃體素：月經週期、懷孕、哺乳期、停經前後，荷爾蒙變化都會影響密度。
 - 荷爾蒙治療（HRT）：停經後接受荷爾蒙補充療法可能增加乳房密度。
 - 避孕藥：長期使用可能使密度稍微增加。
 - **懷孕與哺乳**
 - 懷孕期間乳腺增生，密度會增加；哺乳後隨時間會逐漸下降。
 - **體脂比例**
 - 體脂較低的女性，相對乳腺比例較高，乳房密度也偏高。
 - **生活方式與飲食**
 - 高脂飲食、酒精攝取、缺乏運動，可能間接影響荷爾蒙水平與密度。
 - **藥物影響**
 - 某些藥物（如特定抗荷爾蒙藥、化療藥物）可能降低乳房密度。
 - **遺傳因素**
 - 家族中若有乳房密度高的女性，自己也可能有相似傾向。
 - **疾病或病理狀況**
 - 乳腺纖維囊性變化、乳腺炎等情況都可能改變密度。

Tamoxifen 他莫昔芬

➤ 是一種選擇性雌激素受體調節劑 (Selective Estrogen Receptor Modulator, SERM)。

• 它的作用有點像「針對不同器官挑選性地當雌激素的敵人或朋友」：

- 在乳腺組織：扮演**雌激素拮抗劑**，阻斷雌激素與受體結合，減少雌激素促進乳腺細胞增生的作用→這是它能降低乳癌復發、預防乳癌的關鍵機制。
- 在骨骼與子宮：則可能像雌激素一樣，幫助維持骨密度或刺激子宮內膜。

➤ 臨床用途

- 乳癌治療
 - 適用於雌激素受體陽性 (ER+) 乳癌的術後輔助治療、轉移性乳癌治療。
 - 可用於停經前與停經後女性。
- 乳癌預防
 - 對於乳癌高風險女性 (有家族史、遺傳突變、異常乳腺病變)，可降低未來罹患乳癌的機率。
- 其他用途
 - 少數情況下也被用於男性乳癌，或醫學研究探討其他荷爾蒙相關疾病。



original reports

Low-Dose Tamoxifen for Mammographic Density Reduction: A Randomized Controlled Trial

Mikael Eriksson, PhD¹; Martin Eklund, PhD¹; Signe Borgquist, MD, PhD^{2,3}; Roxanna Hellgren, MD⁴; Sara Margolin, MD, PhD^{5,6}; Linda Thoren, MD^{5,6}; Ann Rosendahl, PhD³; Kristina Lång, MD, PhD^{7,8}; José Tapia, MS¹; Magnus Bäcklund, MD, PhD¹; Andrea Discacciati, PhD¹; Alessio Crippa, PhD¹; Marike Gabrielson, PhD¹; Mattias Hammarström, BSc¹; Yvonne Wengström, PhD⁹; Kamila Czene, PhD¹; and Per Hall, MD, PhD^{1,5}

低劑量”他莫昔芬”降低攝影的乳房密度：一項隨機對照試驗

PURPOSE

PURPOSE Tamoxifen prevents breast cancer in high-risk women and reduces mortality in the adjuvant setting. Mammographic density change is a proxy for tamoxifen therapy response. We tested whether lower doses of tamoxifen were noninferior to reduce mammographic density and associated with fewer symptoms.

- Tamoxifen (他莫昔芬) 可預防高風險女性罹患乳癌，並在輔助治療中降低死亡率。乳房攝影密度變化可作為tamoxifen治療反應的一項替代指標。
- 測試較低劑量的tamoxifen是否在降低乳房密度方面具有不遜於其他藥物，並伴隨較少副作用。

Patients and Methods

PATIENTS AND METHODS Women, 40-74 years of age, participating in the Swedish mammography screening program were invited to the 6-month double-blind six-arm randomized placebo-controlled noninferiority dose-determination KARISMA phase II trial stratified by menopausal status (EudraCT 2016-000882-22). In all, 1,439 women were accrued with 1,230 participants accessible for intention-to-treat analysis. The primary outcome was proportion of women treated with placebo, 1, 2.5, 5, and 10 mg whose mammographic density decreased at least as much as the median reduction in the 20 mg arm. The noninferior margin was 17%. Secondary outcome was reduction of symptoms. Post hoc analyses were performed by menopausal status. Per-protocol population and full population were analyzed in sensitivity analysis.

- 研究收集年齡介於40至74歲、參與瑞典乳房攝影篩檢計劃的女性，進行為期6個月的比對對照。
- 共1439名女性，其中1230人可進行意向治療(intention-to-treat, ITT)分析。
- 研究主要目的是比較不同劑量(安慰劑、1、2.5、5、10 mg)是否能達到與20 mg組中密度下降幅度相同或更好。
- 非劣性界限設定為17%。
- 次要目的為副作用減少情形，並依停經狀態進行事後分析。

Results

RESULTS The 1,439 participants, 566 and 873 pre- and postmenopausal women, respectively, were recruited between October 1, 2016, and September 30, 2019. The participants had noninferior mammographic density reduction following 2.5, 5, and 10 mg tamoxifen compared with the median 10.1% decrease observed in the 20 mg group, a reduction confined to premenopausal women. Severe vasomotor symptoms (hot flashes, cold sweats, and night sweats) were reduced by approximately 50% in the 2.5, 5, and 10 mg groups compared with the 20 mg group.

- 研究於2016年10月1日至2019年9月30日，收集共1439名受試者，其中566名為停經前女性，873名為停經後女性。
- 研究發現：使用2.5、5和10mg tamoxifen的患者，在乳房密度下降方面對比20 mg組中位數下降幅度(10.1%)具有非劣性，但這種效果僅限於停經前女性。
- 此外，相較於20 mg組，2.5、5和10mg組的重度血管迷走症狀(如熱潮紅、冷汗與夜間盜汗)約減少50%。

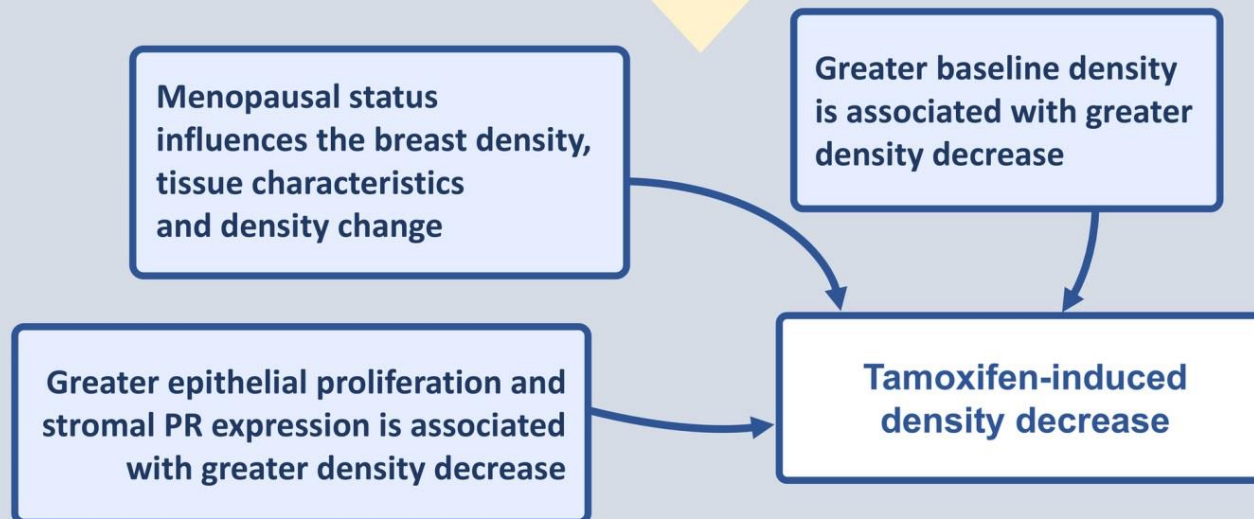
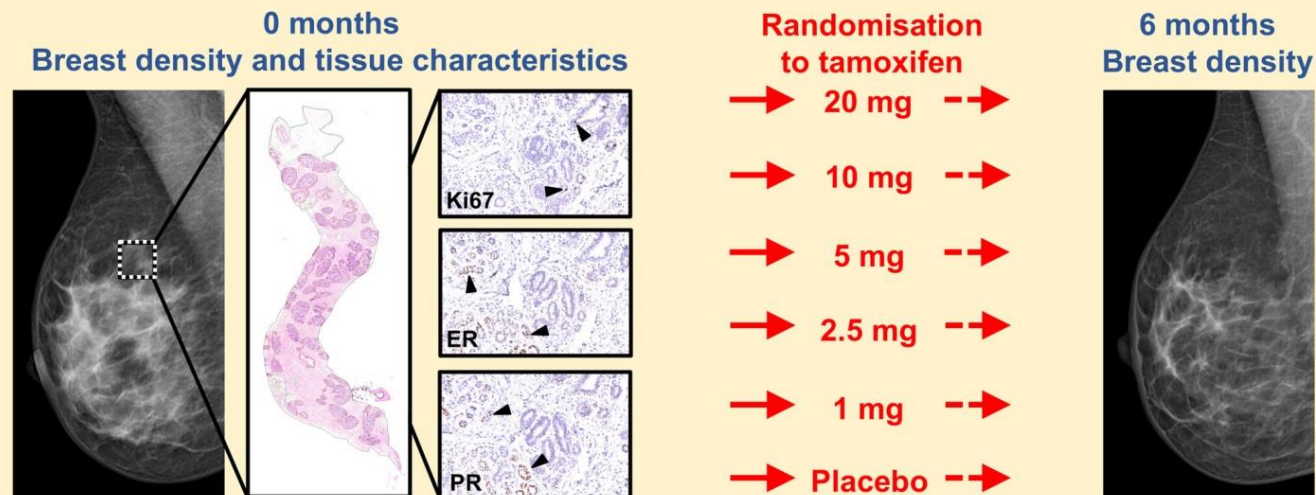
Conclusion

CONCLUSION Premenopausal women showed noninferior magnitude of breast density decrease at 2.5 mg of tamoxifen, but fewer side effects compared with the standard dose of 20 mg. Future studies should test whether 2.5 mg of tamoxifen reduces the risk of primary breast cancer.

- 對於停經前女性而言，2.5 mg tamoxifen 能達到與20 mg 相當的乳房密度降低效果，且副作用更少。未來的研究應進一步探討2.5mg tamoxifen是否能降低初發乳癌的風險。

Do breast tissue characteristics before tamoxifen influence the tamoxifen-induced mammographic density decrease in healthy women?

Data from the KARISMA randomised clinical trial

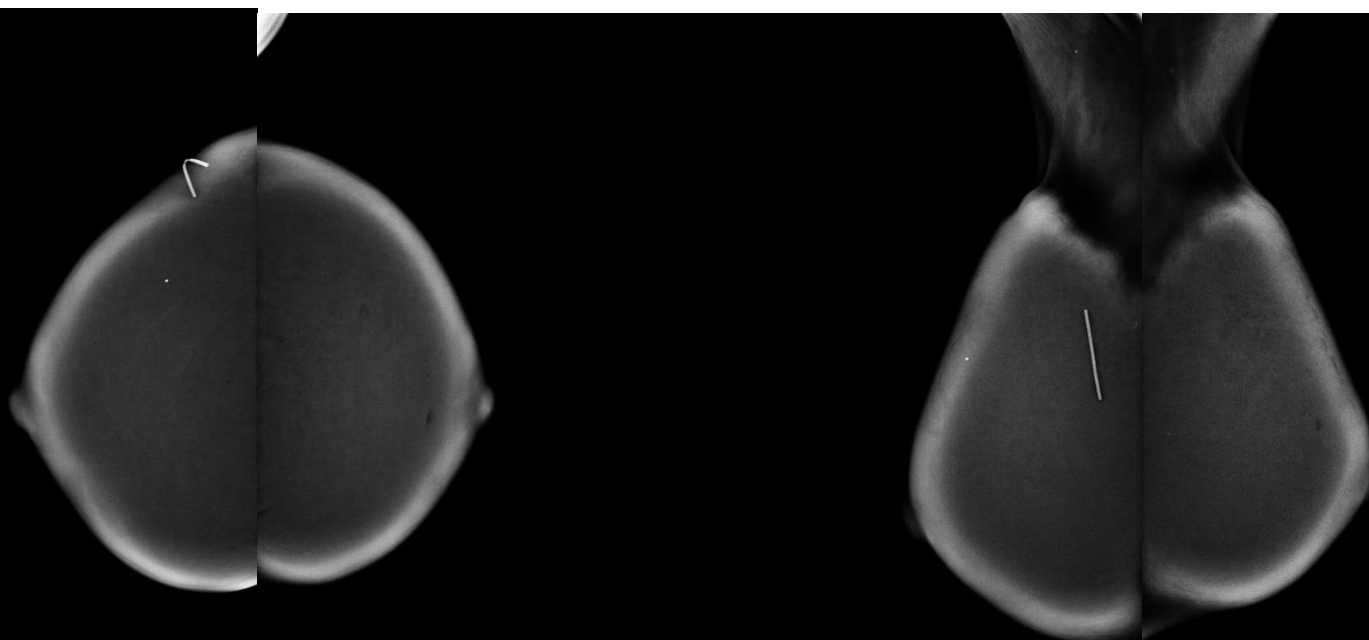


Tissue composition influences the tamoxifen-induced density decrease

案例分享

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- **113.6.24**
- The breasts are extremely dense, which lowers the sensitivity of mammography.
- There is single coarse benign calcification in right breast
- There is subcutaneous edematous change of breasts.



- **114.6.5**
- The breasts are extremely dense, which lowers the sensitivity of mammography.
- There is single coarse benign calcification in right breast.
- There is no plemorphic calcification or spiculated masses identified.

