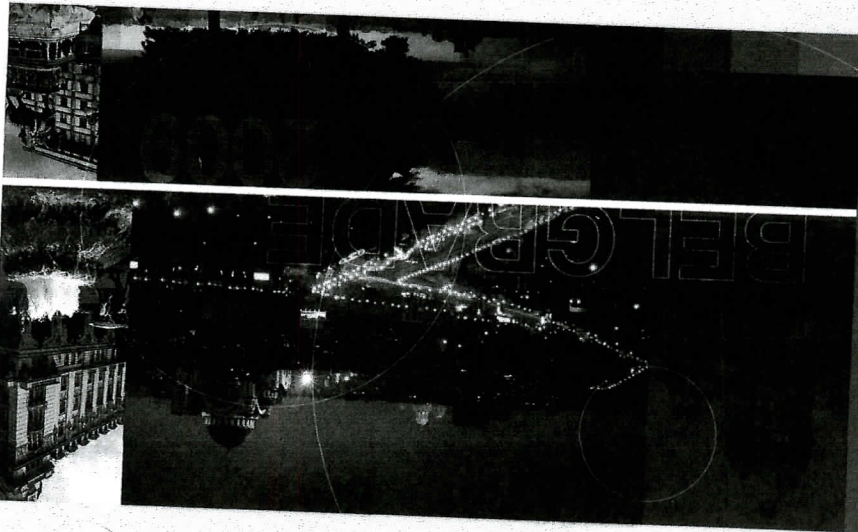


**ABSTRACTS**  
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## EFFECT OF SIMVASTATIN ON METASTASIS-SPECIFIC MOUSE MAMMARY CARCINOMA 4T1 CELLS IN VIVO SYSTEM

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**Introduction:** The use of lipophilic statins, like simvastatin, has been shown to significantly lower the risk of cancer. The present study was drawn to assess anticarcinogenic and antimetastatic effects of simvastatin in an in vivo model using 4T1 mouse mammary carcinoma cells resembling exactly to that of stage IV in human breast cancer.

**Methods:** 4T1 cells were inoculated in 30 BALB/c mice, randomly divided into three cohorts of 10 mice. In two groups (G1 and GII), simvastatin treatment (25mg/kg e 50mg/kg, respectively) was administered for 6 weeks and one group (GIII) received vehicle alone without simvastatin. This study will assess tumors development rates, tumor volumes, proliferation (PCNA) and apoptosis (Bax, Caspase 3 and Bcl2) were evaluated, by using immunohistochemistry techniques (IHC).

**Results:** The GIII presented a higher metastasis rate and tumors of GIII presented a medium volume higher than in G1 ( $p=0,011$ ). This volume increase in GIII was accompanied by an apparent increase in proliferation, demonstrated by the higher marking intensity for PCNA in this group in relation to G1 ( $p < 0,005$ ) and GII ( $p > 0,005$ ). The G1 and GII presented an increase in apoptosis by higher marking intensity for Caspase 3 and Bax when compared to GIII ( $p < 0,005$ ). No significant differences were found considering marking intensity for Bcl2 of G1, GII and GIII tumors.

**Conclusion:** This study suggests that simvastatin has the ability to prevent the development of breast cancer and related metastasis by decrease proliferation and increase apoptosis; however, further studies are required to identify the molecular targets.