

# LBCA Advocate Chat Series 2022

***Reading Research Articles and Posters: A Conversation with  
Dr. Megan Kruse on SABCS21 Research and Presentation on  
Pleomorphic vs. Non-pleomorphic ILC***



[lobularbreastcancer.org](http://lobularbreastcancer.org)

# Welcome and Today's Session

Information about today's session:

- Presentation portion will be recorded, and all participants will be muted
- Question and Answer period, which will not be recorded, will follow:
  - Write your questions in the chat throughout the presentation
  - During the Q & A portion, questions from the chat will be read. The moderator may call on people as well who indicate in the chat that they would like to ask a question
  - NOTE: Please avoid any questions about personal issues or specific medical questions as they can not be addressed during this event

***Reading Research  
Articles and Posters: A  
Conversation about  
SABCS21 Research and  
Presentation on  
Pleomorphic vs.  
Non-pleomorphic ILC***



*Megan Kruse, M.D.  
Breast Medical Oncologist  
Taussig Cancer Institute  
Cleveland Clinic*



# Once the Research Gets Done....

- Presenting findings is key for all results!
- **Starts with an abstract then usually a poster**
- Followed by full publication

# Getting The Most Out of Conferences & Presentations

- Know the conferences you will get the most out of
  - International, National and Regional options
  - SABCS, ASCO, AACR, ESMO, ILC Symposium
- Review the abstracts in advance and take advantage of search tools
  - Online programs are searchable by keyword/“track”
- Watch for “preview” emails from conferences or major media outlets
  - ASCO daily news, ASCO post, Med Page Today, etc

# Getting The Most Out of Conferences & Presentations

- If attending live (in person or virtual):
  - Make an agenda to include your most interesting sessions
  - Prioritize the oral sessions for the practice changing data
  - **Prioritize specialty areas in the poster session**
  - Watch for special topic sessions (clinical challenges, rare subtypes)
  - **See if your organizations of interest (LBCA!) have any special programs**

# Getting The Most Out of Conferences & Presentations

If catching up after the conference:

- Watch your trusted virtual outlets for high impact presentations
- Hybrid conferences will have **presentations on demand**
- **Look to advocacy associations and local academic medical centers for reviews**
- Ask your medical team about things they are excited about



# The Anatomy of a Poster: Traditional

## Better than catnip: Video game addiction trends in cats

S. Jack Duncan and Steve J. Nolen

### Introduction



Even young kittens have discovered the allure of video games.

Since the introduction of video game consoles into the domestic space in the early 1980s, cats have taken a keen interest in this form of entertainment. While early games such as Pong and Frogger were popular with kittens and some kinds of Siamese cats, more recent games such as World of Warcraft and Minecraft have proven to be alarmingly stimulating to a variety of household felines. This study aims to determine the level of video game addiction in cats, and to see if certain cats have more addictive personalities.

### Materials and methods

Cats from a number of different breeds were allowed to choose between a number of video games, both console and PC, and videotaped while playing for extended periods of 6-12 hours over the course of a week.

The cat breeds/types involved in the study included:

- Calico
- Tuxedo
- Tortoiseshell
- Burmese
- Siamese
- Bengal
- Abyssinian
- Orange Tabby



This tuxedo cat was one of the study participants.

The games chosen focus on a wide range of genres, and cats were given the option to play multiple games, in order to see if there were any trends between cat breeds and video games they enjoyed.

The games offered included the following:

- Call of Duty
- Minecraft
- Stardew Valley
- Star Trek: Klingon Academy
- Madden 2015
- Tetris

### Works Cited

- Law, Edna. *Video Games and Pets*. Bloomington, IN: Lil BUB Publishing, 2018.
- Wigglesworth, Jerrard. *Call of Duty: Why Pets Play*. Glad Ridge, IN: Wigglesdog Books, 2006.
- Nolen, Hannah. *Stardew Valley and Your Cat: What You Need To Know*. Bloomington, IN: Crafty Nerd Press, 2018.

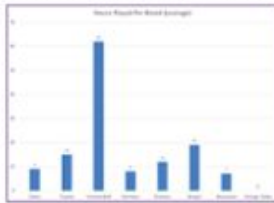
- Q-Bert
- World of Warcraft
- Super Mario Kart

Videotapes were analyzed and coded for 4 specific behaviors: blinking, nose-wagging, rolling on back, and hissing.

### Results

The study proved to have surprising results, as many of the cats involved in the study showed some sort of video game addiction, playing games for at least 5-7 hours per day.

Siamese cats seemed to prefer playing Call of Duty over all other games. Calico cats played Minecraft the most, but also seemed to enjoy playing Stardew Valley - perhaps they like somewhat open-ended games where you can build things. Future studies for calico cats involve exposing them to the games Terraria and Harvest Moon to see their responses. Abyssinian cats played Tetris the most, and one cat made it up to level 42, which is impressive by all accounts.



Graph showing the amount of time each breed of cat spent playing video games.

Academy, and often meowed loudly when the Klingons would say "Q'plh!" The most unexpected of the results involved tortoiseshell cats - all three tortoiseshell cats involved in the study developed an addiction to World of Warcraft. One of the cats managed to get to level 60 over the course of the study, and started a raiding guild while she was at it. All three are now working on a 12-step program to wean themselves from their WoW addiction, which includes catnap therapy, supervised trips outdoors, and prolonged snuggling

Spyker, Tami. *I Play Minecraft: A Cat's Tale*. Tuxedo, IN: Feathered Cat Press, 2018.

Bubblin, Lilium. *Lil BUB's Little Book of Video Games*. Bloomington, IN: Lil BUB Publishing, 2017.

Barton, O. C. *Supporting Your Cat Through Video Game Addiction*. Fishers, IN: SE&J Media, 2015.

from their owners.

Also surprising was the one orange tabby cat who participated in the study - instead of playing video games, he chose to wander around and watch the other cats play games, and would often go up to the humans running the study to give them head-butts and beg for pets. He showed no interest whatsoever in video games, which was quite interesting.



Even cats prefer outside games over PC games.

### Conclusion

This study suggests that most cats exhibit some level of video game addiction; it is evident that tortoiseshell cats are most susceptible to video game



Kitties getting in on the fun by looking up their own playing video games.

addiction, especially massively multiplayer online games. Video game addiction in cats is best treated with familiar pet owner/pet interactions such as sitting in laps, long strokes down the back, rubbing the soft fur under the ears and chin, and nonsensical baby talk. Burmese cats also responded well to playing with yarn. One of the calico cats was unresponsive to most treatments and refused to quit playing Stardew Valley until a large building was released into the lab, frightening it out of its video gaming stupor. By far, the most addictive game outside of World of Warcraft was Tetris, which the Abyssinian cat played for seven hours straight. This was then followed by a long, lazy nap in a sunny window sill.

Future studies may involve exposing a select number of cats to the entire range of video games (as opposed to letting the cats self-select the games played), and seeing if cats have a competitive nature by having them play video games with their owners.

### Acknowledgements

Many thanks to Peter Ensey for the topic and original text for this poster. For more information about making research posters, visit <https://training.iu.edu/exploratory/files/crps/intra.html>.

IMRAD Format:

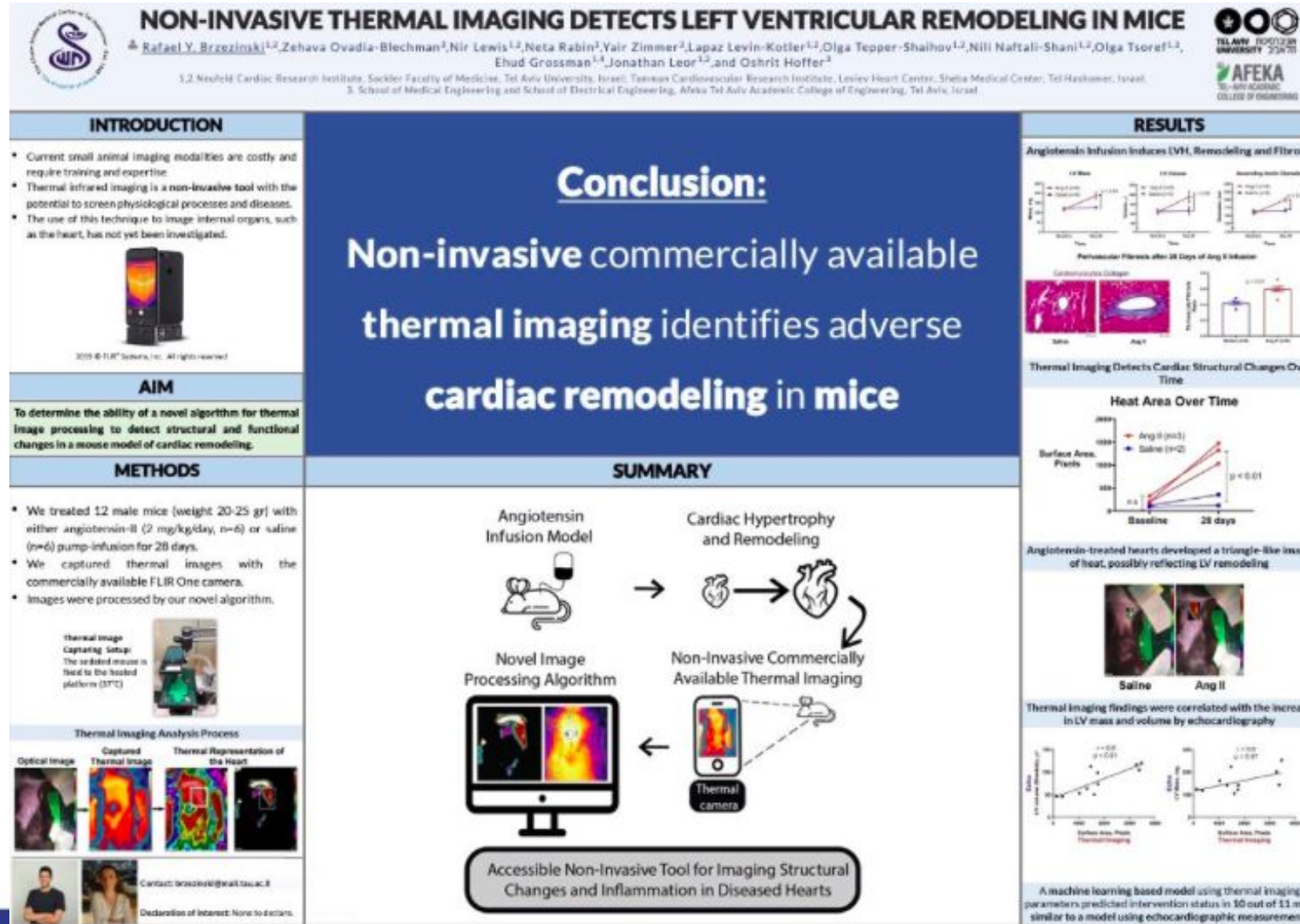
- Introduction
- Methods
- Results
- Discussion/Conclusions
- References

**TEXT** Heavy with some graphics

Should capture what is in the written abstract but often with more data though not all data

<https://iu.instructure.com/courses/1729149/pages/introduction-to-research-posters>

# The Anatomy of a Poster: Modern



Focus on **graphics** for methods and results

Clear conclusion that takes center stage

Clear contact information

# The Anatomy of a Poster: Modern

**NON-INVASIVE THERMAL IMAGING DETECTS LEFT VENTRICULAR REMODELING IN MICE**

Rafael Y. Brzezinski<sup>1,2</sup>, Zehava Ovadia-Blechman<sup>3</sup>, Nir Lewis<sup>1,2</sup>, Neta Rabin<sup>1</sup>, Yair Zimmer<sup>3</sup>, Lapaz Levin-Kotler<sup>1,2</sup>, Olga Tepper-Shaihov<sup>1,2</sup>, Nili Naftali-Shani<sup>1,2</sup>, Olga Tsoref<sup>1,2</sup>, Ehud Grossman<sup>1,4</sup>, Jonathan Leor<sup>1,2</sup>, and Oshrit Hoffer<sup>1</sup>

**INTRODUCTION**

- Current small animal imaging modalities are costly and require training and expertise.
- Thermal infrared imaging is a non-invasive tool with the potential to screen physiological processes and diseases.
- The use of this technique to image internal organs, such as the heart, has not yet been investigated.

**AIM**

To determine the ability of a novel image processing to detect structural changes in a mouse model of cardiomyopathy.

**METHODS**

- We treated 12 male mice (6 with angiotensin-II (2 mg/kg) pump-infusion for 28 days (n=6) and 6 control mice (n=6)).
- We captured thermal images using a commercially available FLIR C100 camera.
- Images were processed by our custom software.

**RESULTS**

Angiotensin II infusion induces LVH, remodeling and fibrosis. We observed significant increases in LV mass, LV volume, and pericardial fibrosis after 28 days of Ang II infusion compared to control mice.

**CONCLUSION:** Non-invasive commercially available thermal imaging can detect structural changes and inflammation in diseased hearts.

**Tweet:** Check out my take on @mikemorrison #betterposter at #ESCCongress in Paris. @escardio

**Feedback:** Got really positive remarks on poster design, I absolutely recommend to give this a try! #cardiotwitter

**Contact:** rafael@wall.tau.ac.il

**Declaration of Interest:** None to declare.

Focus on graphics for methods and results

Clear conclusion that takes center stage

Clear contact information


# Navigating a Poster Session/Preparing a Poster



How to create a better research poster in less time ([#betterposter](#) Generation 1)

- YouTube: Mike Morrison

# Navigating a Poster Session

- Have a plan!
- Consider having a “buddy” or join a “poster crawl”
- Look for QR codes and take photos 
- Bring a notepad to jot down exciting points/ideas
- Consider collecting emails for future correspondence/networking

# Pleomorphic ILC vs Non-Pleo ILC Presentation

## SABCS 2021 Poster Session

# Comparison of Clinical Features and Outcomes for Pleomorphic Invasive Lobular Carcinoma vs. Non-Pleomorphic Invasive Lobular Carcinoma



Matthew D. Wright<sup>1</sup>, Marcus S. Dempster<sup>2</sup>, Ayat ElSherif<sup>3</sup>, Daniela Cocco<sup>3</sup>, Stephanie A. Valente<sup>3</sup>, Hong Li<sup>4</sup>, Megan L. Kruse<sup>1</sup>

<sup>1</sup>Department of Hematology and Medical Oncology, Taussig Cancer Institute, Cleveland Clinic <sup>2</sup>Department of Internal Medicine, Cleveland Clinic <sup>3</sup>Division of Breast Surgery, Department of General Surgery, Cleveland Clinic <sup>4</sup>Department of Quantitative Health Science, Cleveland Clinic  
San Antonio Breast Cancer Symposium - December 7-10, 2021

## Background

- Invasive lobular carcinoma (ILC) comprises of a variety of subtypes: classic, pleomorphic, alveolar, solid, mixed, and tubulolobular.<sup>1</sup>
- Classical ILC, the most common subtype, is composed of a single file of cells invading the stroma.<sup>2</sup>
- Pleomorphic ILC (pILC) displays increased nuclear pleomorphism<sup>2</sup> and additional patterns of invasion.<sup>3</sup>
- pILC is associated with advanced stage, HER2 positivity, and lymph node involvement.<sup>3</sup>
- Studies comparing survival outcomes between pILC and non-pILC have yielded mixed results showing either decreased survival in pILC<sup>4,5</sup> or no difference in survival.<sup>6,7</sup>

## Objectives

- Primary:** Compare clinicopathologic features and treatment patterns of pILC and non-pILC.
- Secondary:** Measure recurrence-free survival (RFS) and overall survival (OS) between both groups.

## Methods

- Study design:** Retrospective study of large institutional database completed via chart review of electronic medical records.
- Study population:** Adult patients evaluation for ILC during 2004-2017 in the Cleveland Clinic Health System.
- Patient characteristics:** demographics, disease characteristics, biomarker profile, disease staging, specific ILC histology, treatment, recurrence events

## Statistics

- ANOVA and Person's chi-square test were utilized to compare features between pILC and non-pILC.
- Log-rank test was used to compare RFS and OS between both groups as visualized by Kaplan-Meier curve.
- Propensity score matching was completed to account for confounding variables.
- Cox proportional hazard model was used to determine RFS and OS.

## Results

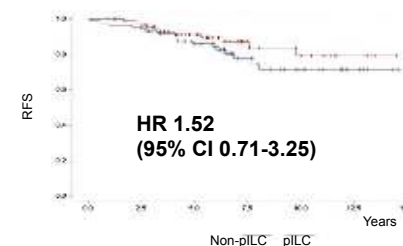
Table 1. Baseline characteristics, disease traits, and treatment patterns.

	Non-pILC (n=591)	pILC (n=100)
Median age	61.9	60.0
Postmenopausal (%)	76.5	70.0
ER+ (%)	98.5	94.0
PR+ (%)	81.4	81.0
HER2-amplified (%)	7.0	12.2
Grade 3 (%)	2.2	33.3
Stage I (%)	48.0	23.5
Stage II (%)	37.4	50.0
Stage III (%)	14.6	26.5
pT1 (%)	58.5	37.0
pT2-4 (%)	41.5	63.0
pN1+ (%)	66.0	48.5
Mastectomy (%)	52.6	65.0
Chemotherapy (%)	36.5	66.0
Anti-HER2 therapy (%)	5.8	12.0

Table 2. 10-year RFS and OS.

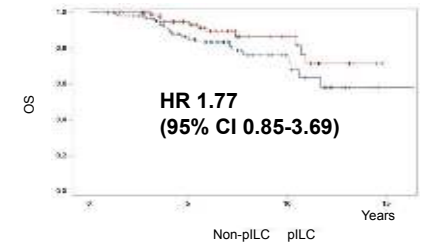
	Non-pILC (n=591)	pILC (n=100)
10-year RFS (%)	71.5 (95% CI 58.7-84.2)	79.2 (95% CI 66.3-92.1)
10-year OS (%)	76.0 (95% CI 65.0-87.0)	86.3 (95% CI 76.9-95.7)

Figure 1. 10-year RFS.



## Results

Figure 2. 10-year OS.



## Discussion

- pILC presents with more advanced disease in the breast but not in lymph nodes compared to non-pILC.
- At our institution, patients with pILC were treated with more aggressive therapies, including chemotherapy and mastectomy, compared to those with non-pILC, likely related to higher grade, lower ER-positivity, and higher HER2-positivity in pILC.
- After propensity score matching, pILC appears to have increased RFS and OS compared to non-pILC.
- These data reveal some unexpected trends that challenge the notion of pILC having worse outcomes compared with non-pILC.

## References

- Sinn HP, Kreipe H. A brief overview of the WHO classification of breast tumors, 4<sup>th</sup> edition, focusing on issues and updates from the 3<sup>rd</sup> edition. *Breast Care*. 2013 May;8(2):149-54.
- Weidner N, Semple JP. Pleomorphic variant of invasive lobular carcinoma of the breast. *Hum Pathol*. 1992 Oct;23(10):1167-71.
- Jung HN, Shin JH, Han BK et al. Are the imaging features of the pleomorphic variant of invasive lobular carcinoma different from classic ILC of the breast? *Breast*. 2013 Jun;22(3):324-9.
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- Narendra S, Jenkins SM, Nassar A. Clinical outcome in pleomorphic lobular carcinoma and pleomorphic lobular carcinoma in-situ. *Ann Diagn Pathol*. 2015 Apr;19(2):64-9.

# Pleomorphic ILC vs Non-Pleo ILC Presentation: Introduction

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- Classical ILC, the most common subtype, is composed of a single file of cells invading the stroma
- Pleomorphic ILC (pILC) displays increased nuclear pleomorphism<sup>2</sup> and additional patterns of invasion
- pILC is associated with advanced stage, HER2 positivity, and lymph node involvement
- Studies comparing survival outcomes between pILC and non-pILC have yielded mixed results showing either decreased survival in pILC or no difference in survival



# Pleomorphic ILC vs Non-Pleo ILC Presentation: Methods

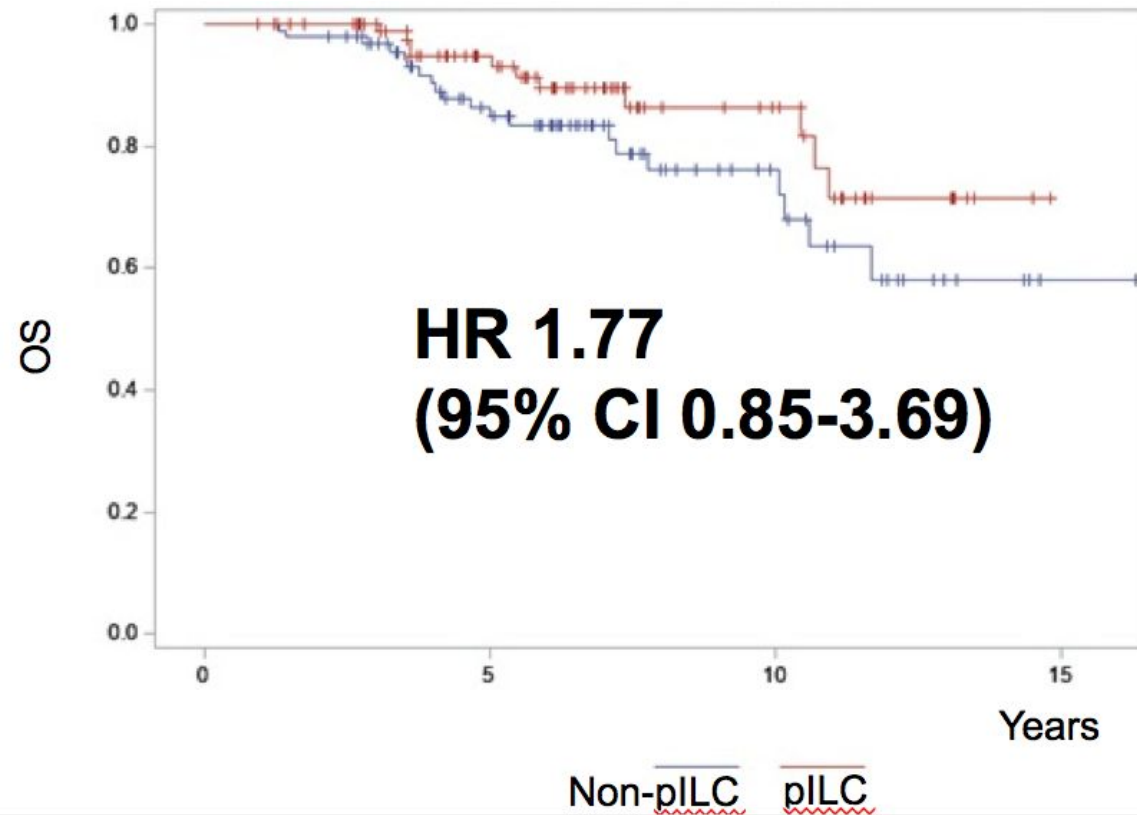
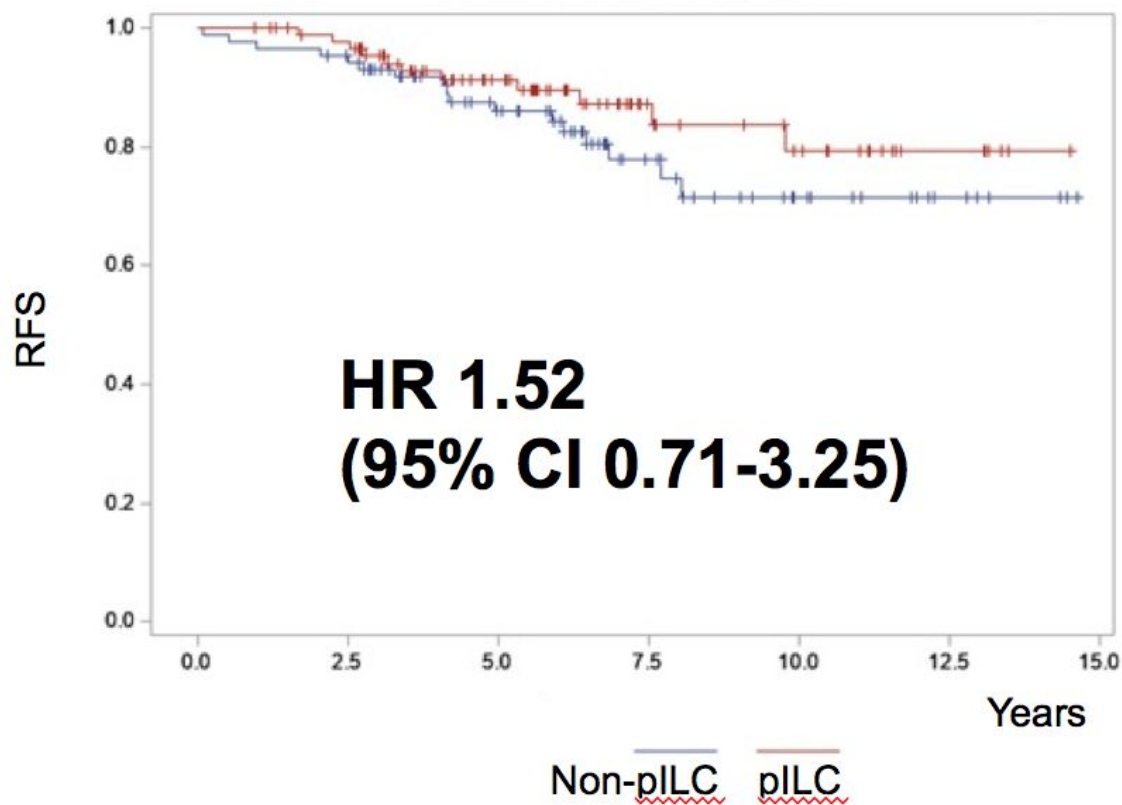
- Retrospective review of all ILC patients treated at Cleveland Clinic from 2004-2017
- Removed patients with Stage IV cancer □ 691 total patients
- Recorded all clinical characteristics of patients and their cancers, treatment info
- Also documented any recurrences or deaths that occurred

# Pleomorphic ILC vs Non-Pleio ILC Presentation: Results

	Non-pILC (n=591)	pILC (n=100)
Median age	61.9	60.0
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# Pleomorphic ILC vs Non-Pleio ILC Presentation: Results



# Pleomorphic ILC vs Non-Pleo ILC Presentation: Conclusions/Next Steps

- At our institution, patients with pILC were treated with more aggressive therapies, including chemotherapy and mastectomy, compared to those with non-pILC, likely related to higher grade, lower ER-positivity, and higher HER2-positivity in pILC
- pILC appears to have increased RFS and OS compared to non-pILC in this cohort
- These data reveal some unexpected trends that challenge the notion of pILC having worse outcomes compared with non-pILC
- Analysis of HER2+ cases vs HER2- cases is crucial □ awaiting this
- Is there a difference in treatment responsiveness or outcomes for HER- pILC vs HER2+ pILC?

**Thank you!**



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# Questions & Answers