The Child-Pugh score: Prognosis in chronic liver disease and cirrhosis [Classics Series]

by **Andrew Cheung, MD MBA** — December 3, 2023

in **General Medicine Classics**, **Surgery Classics**, **The Classics** Reading Time: 2 mins read

Factor	1 point	2 points	3 points
Total bilirubin (µmol/L)	<34	34-50	>50
Serum albumin (g/L)	>35	28-35	<28
PT INR	<1.7	1.71-2.30	>2.30
Ascites	None	Mild	Moderate to Severe
Hepatic encephalopathy	None	Grade I-II (or suppressed with medication)	Grade III-IV (or refractory)

	Class A	Class B	Class C
Total points	5-6	7-9	10-15
1-year survival	100%	80%	45%

Table I. Child-Pugh score.

Research Article
Viral Hepatitis

JOURNAL
OF HEPATOLOGY

Predictors of hepatic flares after nucleos(t)ide analogue cessation – Results of a global cohort study (RETRACT-B study)

Authors

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Background & Aims: Flares after nucleos(t)ide analogue (NA) cessation are common and potentially harmful. Predictors of flares are required for risk stratification and to guide off-treatment follow-up.

Method: This multicenter cohort study included virally suppressed patients with chronic hepatitis B (CHB) who were hepatitis B e antigen negative at NA cessation. Hepatic flares were defined based on ALT levels of ≥5x, 10x or 20x the upper limit of normal (ULN). Multivariable Cox regression analyses were performed with censoring at retreatment, HBsAg loss or loss to follow-up. A sub-analysis was performed including HBV DNA levels within the first 12 weeks as a time-dependent covariate.

Results: Of the 1,552 included patients, 350 developed a flare (ALT ≥5x ULN), of whom 70.6% did within the first year. One-year cumulative incidences for ALT flares ≥5x, ≥10x, ≥20x ULN were 18.6%, 10.2% and 3.4%, respectively. Severity of flares decreased over time, but severe flares still occurred after 1 year. Thirteen patients decompensated after a flare, of whom three died. Flares did not seem to be associated with increased rates of HBsAg loss (adjusted hazard ratio [aHR] 1.42, $p = 0.28$). Multivariable analyses showed that older age (aHR 1.02, $p = 0.001$), male sex (aHR 1.57, $p = 0.003$), HBsAg levels at NA withdrawal (100-1,000 IU/ml; aHR 1.99, $p < 0.001$; >1,000 IU/ml; aHR 2.65, $p < 0.001$) and tenofovir disoproxil fumarate *vs.* entecavir therapy (aHR 2.99, $p < 0.001$) were predictive of flares (≥5x ULN). Early HBV DNA levels >5log$_{10}$ IU/ml were associated with the highest risk of flares (aHR 2.36, $p < 0.001$).

Conclusion: Flares are common after NA withdrawal, especially within the first year and can result in hepatic decompensation and death. Older age, male sex, higher HBsAg levels at end of treatment and tenofovir therapy were associated with a higher risk of flares. Close monitoring and retreatment should be considered if HBV DNA levels exceed 5log$_{10}$ IU/ml within the first 12 weeks.

Clinical trial number: not applicable.

REVIEW

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Wolff-Parkinson-White syndrome: Diagnostic and management strategies

ABSTRACT

An unknown number of people are born with single or multiple accessory electrical pathways between the atria and the ventricles. Although most people who have an accessory pathway never experience any problems, some show characteristic abnormalities on surface electrocardiography (the Wolff-Parkinson-White [WPW] pattern), and a minority of those with the WPW pattern experience symptoms such as palpitations, dizziness, shortness of breath, and presyncope—the WPW syndrome. The latter has the potential to lead to malignant tachyarrhythmias and even sudden cardiac death. Thus, it is imperative to detect the WPW electrocardiographic pattern, diagnose WPW syndrome early, and adequately risk stratify those at risk for serious complications.

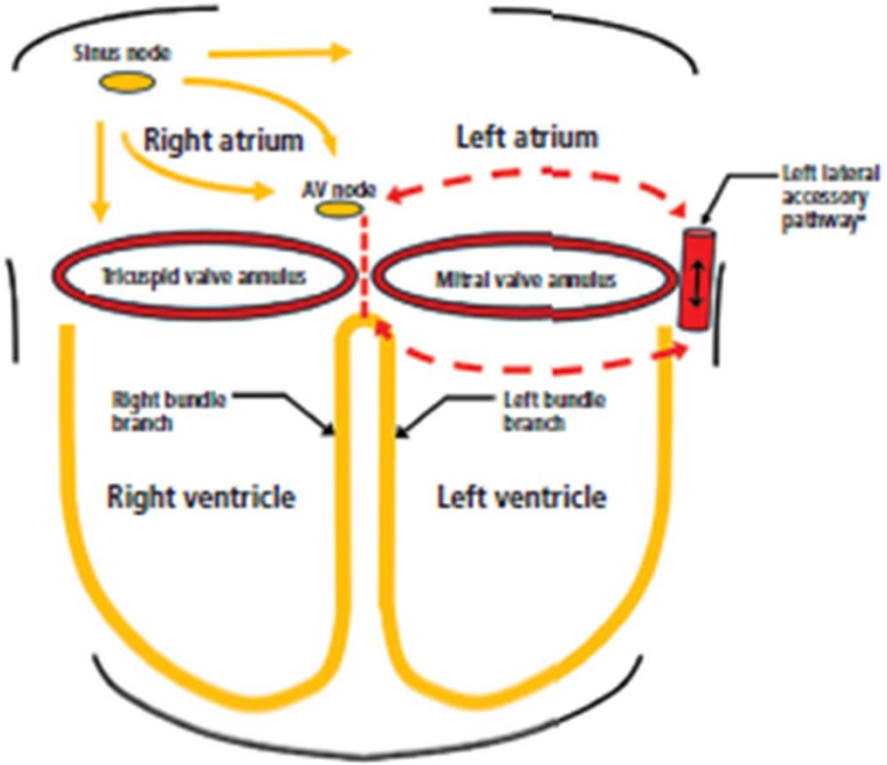
KEY POINTS

Noninvasive tests—cardiac event monitoring, echocardiography, and exercise stress testing—can help identify those at highest risk, for whom an ablation procedure can be considered.

Electrophysiologic studies are invasive, but advances in technology have made them less risky, and many cardiologists now perform an electrophysiologic study and consider accessory pathway ablation in patients who would previously have been managed conservatively.

The management challenge lies in those with WPW pattern but no symptoms.

Figure 1. Left, normal conduction pathway with normal sinus rhythm generated by the sinus node and conducted through the atrioventricular node, bundle of His, and subsequently through the left and right bundle branches, leading to normal PR duration (120–200 ms), normal QRS duration (< 120 ms), and no pre-excitation. Right, normal electrocardiogram with clear upright P waves (yellow arrow), normal PR interval, and narrow QRS pattern.



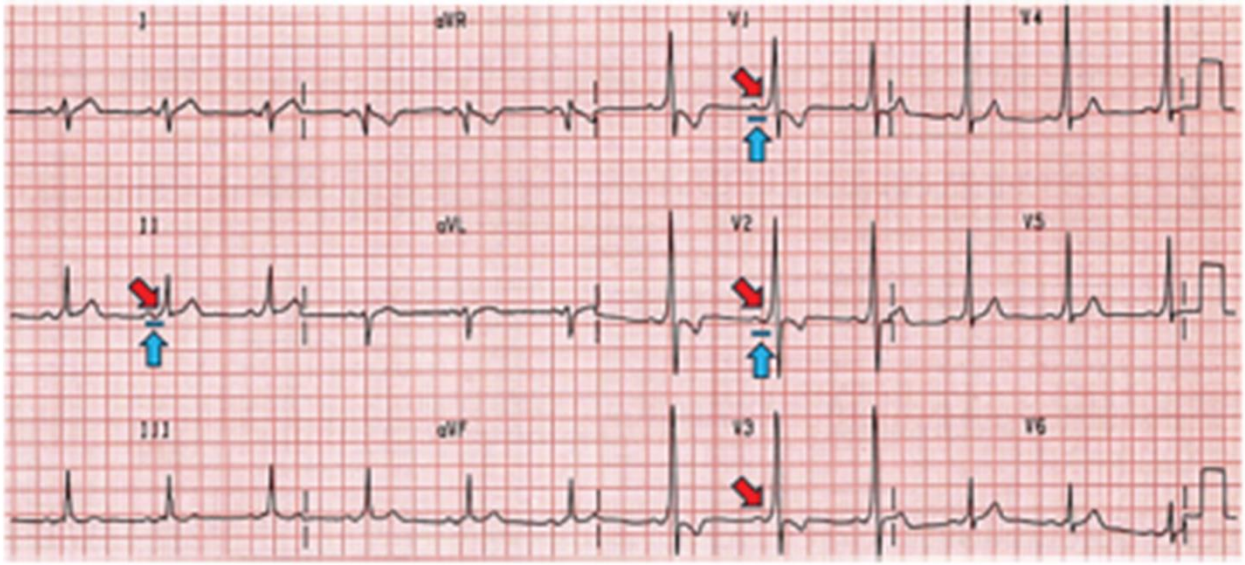


Figure 3. Characteristic Wolff-Parkinson-White type A pattern, including a short PR interval (blue arrows), wide QRS, and delta waves (red arrows). Positive delta waves in V_1–V_3 suggest a left-sided accessory pathway (Figure 2).

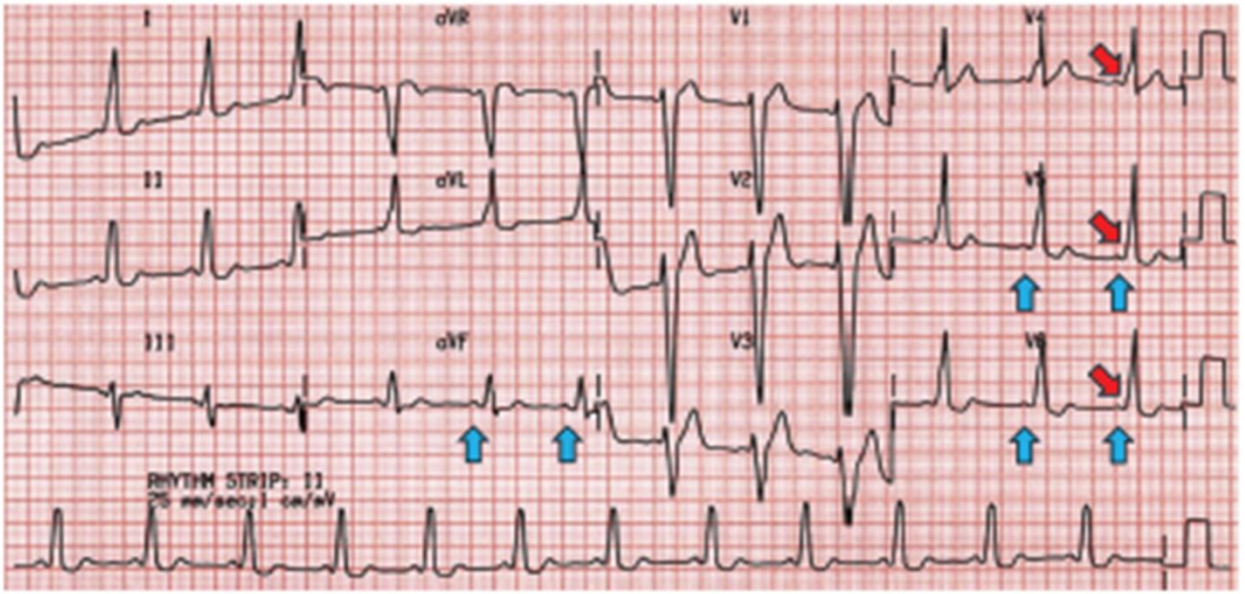


Figure 4. Characteristic Wolff-Parkinson-White type B pattern, including a short PR interval (blue arrows)

How Accurate Is Preoperative Risk Assessment?

One of the commonest consultations that I see in both the outpatient and inpatient environments involves preoperative risk assessment requested by general surgery or one of the surgical subspecialities (eg, orthopedics). There exist many instruments for estimating patient risks involved with specific operations. Each of these clinical tools relies on clinical information easily obtained from the patient or the medical record. The commonest variables employed include age, renal function, presence of diabetes mellitus, frail condition, current smoking, and the results of a variety of blood tests, such as high sensitivity troponin, C-reactive protein, and D-dimer. One of the most frequently used instruments is the Surgical Risk Score (SRS), which assigns a numerical risk value to various planned surgical interventions.[1] When calculated, the SRS results in a preoperative risk assessment number ranging from 1 ("very low risk") to 5 ("very high risk"). The SRS is the commonest surgical risk tool employed in daily clinical practice. However, there are many other risk scores.

When I evaluate a patient's risk for a specific operation (eg, bariatric surgery), I rarely take the trouble to calculate the SRS. It has often been calculated before I see the patient and is listed in the operating surgeon's preoperative progress note. Whenever I read the results of one of these risk assessment instruments, the cynical devil in my head says, "Is this number really a reflection of what is going to happen?" And, of course, the little cynical fellow is correct in casting doubt on the accuracy of the number arrived at because none of these tools can truly predict the future. All risk assessment formulas are based on data obtained from large population statistics, clinical databases, or the results of large randomized clinical trials. Unfortunately, during a clinical experience, are only estimates of the negative events that might occur. Sadly, it is not rare that a vigorous and healthy individual develops a serious cardiovascular complication following elective or urgent surgery. Knowing this provides solace when I have earlier approved a surgical intervention during or following which a post-op complication developed. Also assuaging my feelings of guilt is the realization that I told the patient that accurately predicting the future is impossible and that there was at least a small chance for the occurrence of a postoperative cardiovascular complication. What I really would like to have in front of me during a preoperative evaluation is an accurate crystal ball that allows me to see the future. Unfortunately, the crystal balls used by psychics to foresee the future are certainly less accurate than our risk prediction tools and the many years of clinical experience used by physicians every day. Even with large population statistics, it is not possible to be completely accurate in estimating surgical risk for an individual patient. Indeed, the patient facing the physician might differ from the patients in the employed database. Thus, one can only guesstimate how much a specific patient closely resembles those individuals that were included in the statistical analysis used to estimate risk. As the famous Danish humorist, Robert Storm Petersen, quipped "It is difficult to make predictions, especially about the future" (*Det er svært at spå, især om fremtiden*).

A PubMed search for studies examining the accuracy of preoperative surgical risk assessment tools confirmed that even the best of these instruments falls short of perfection and are infrequently employed by surgeons.[2-6] Osborne and colleagues[7] had this to say in the first sen-

MAYO CLINIC PROCEEDINGS

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Valvular Heart Disease—A New Evolving Paradigm

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Abstract

Valvular heart disease is one of the most common cardiovascular diseases today and may result in severe limiting symptoms, a shortened lifespan, and, in some cases, sudden death. It is important to identify significant valve disease because intervention can restore quality of life and in many instances increase longevity. In most patients, the diagnosis of significant valvular heart disease can be made on the basis of a physical examination, yet nearly half of the patients who could benefit from interventions are not being recognized or referred. There have been major improvements in both the diagnosis and treatment of patients with valvular heart disease, with noninvasive echocardiography available to confirm the presence and severity of valve disease, better and more durable surgical procedures, and the advent of catheter-based therapies. There are now national guidelines to aid clinicians in the optimal timing of the intervention, which are presented. However, it is now recognized that the long-standing volume or pressure overload from valve disease can result in incipient ventricular dysfunction even before the onset of symptoms or a drop in ejection fraction; therefore, there is an impetus to recognize and to treat these patients earlier and earlier in the disease natural history. A shared decision-making process should play a key role in the final decision for therapy, outlining the goals and risks of possible intervention coupled with the patient's own needs and expectations.

heart surgery in selected patients.

CONCLUSION

Valvular heart disease is one of the most common cardiovascular diseases, leading to significant morbidity and mortality if it is left untreated. There is now a better understanding of the pathophysiologic process and natural history of patients with valve

disease accompanied by tremendous improvements in diagnostic and therapeutic modalities. Given the ability to perform lower risk and less invasive treatments with better durable outcomes, we should consider earlier and earlier intervention before the onset of heart failure and incipient left ventricular dysfunction. It is important to incorporate appropriate clinical decision-making as well as to use a shared decision-making process for determining the optimal treatment regimen for each individual patient.

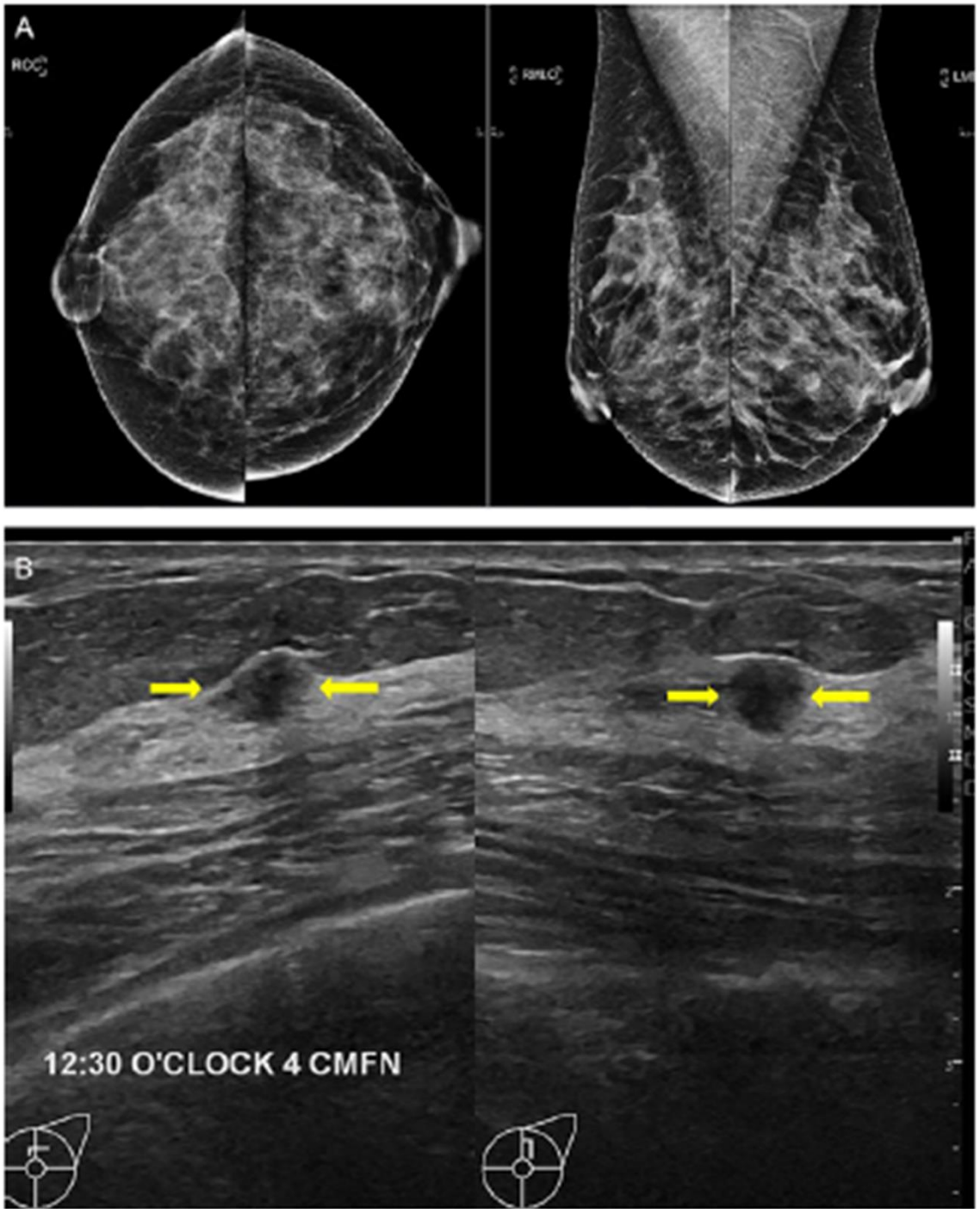
Original Research

Cancers Detected on Supplemental Breast Ultrasound in Women With Dense Breasts: Update From a Canadian Centre

Paula B. Gordon[1], Linda J. Warren[1], and Jean M. Seely[2]

Abstract

Objective: Breast ultrasound is one of several tools proposed for supplemental screening of women with dense breasts but is not widely available in Canada. **Methods:** An IRB-approved, evaluation of ultrasound-guided breast biopsies prompted by screening breast ultrasound performed from August 1, 2021, to December 31, 2022, offered to asymptomatic women with category C and D breast tissue density after normal screening mammography (2D) in the provincial organized screening program, or surveillance diagnostic mammography after breast cancer. Risk factors, stage (AJCC 8th ed), incremental cancer detection rate (ICDR), biopsy rates, and positive predictive values for biopsy (PPV3) were evaluated. **Results:** 5257 women were screened, yielding 247 women (ages 34-82, median age of 56) who underwent biopsies (281 masses), 32 of whom were diagnosed with breast cancer, 27 invasive and 5 DCIS for PPV3 13.0% (32/247), and ICDR 6.1/1000. Ductal cancers found were stage 0 in 5/32 (15.6%), stage 1A in 18/32 (56.3%), and stage 1B in 2/32 (6.3%), 1 ductal/lobular cancer was stage 3B (3.1%), 5 lobular cancers (16.6%) were stage 1A (1), 1B (2), and 2B (2) and 1 adenoid cystic carcinoma was stage 2A (3.1%); 3 cancers were found on incident and 29 on prevalent screens, 27 (84.4%) in category c and 20 (62.5%) in women with no personal or first-degree family history of breast cancer. **Conclusion:** A high ICDR for screening breast ultrasound of 6.1/1000 was found. **Clinical Relevance Statement:** In women with dense breasts screened with 2D mammography where access to supplemental screening with MRI and contrast mammography is limited, supplemental screening ultrasound can play a significant role in cancer detection with a high ICDR in women in both category c and d densities that is higher than in jurisdictions offering annual screening mammography, or where MRI is used for surveillance after cancer.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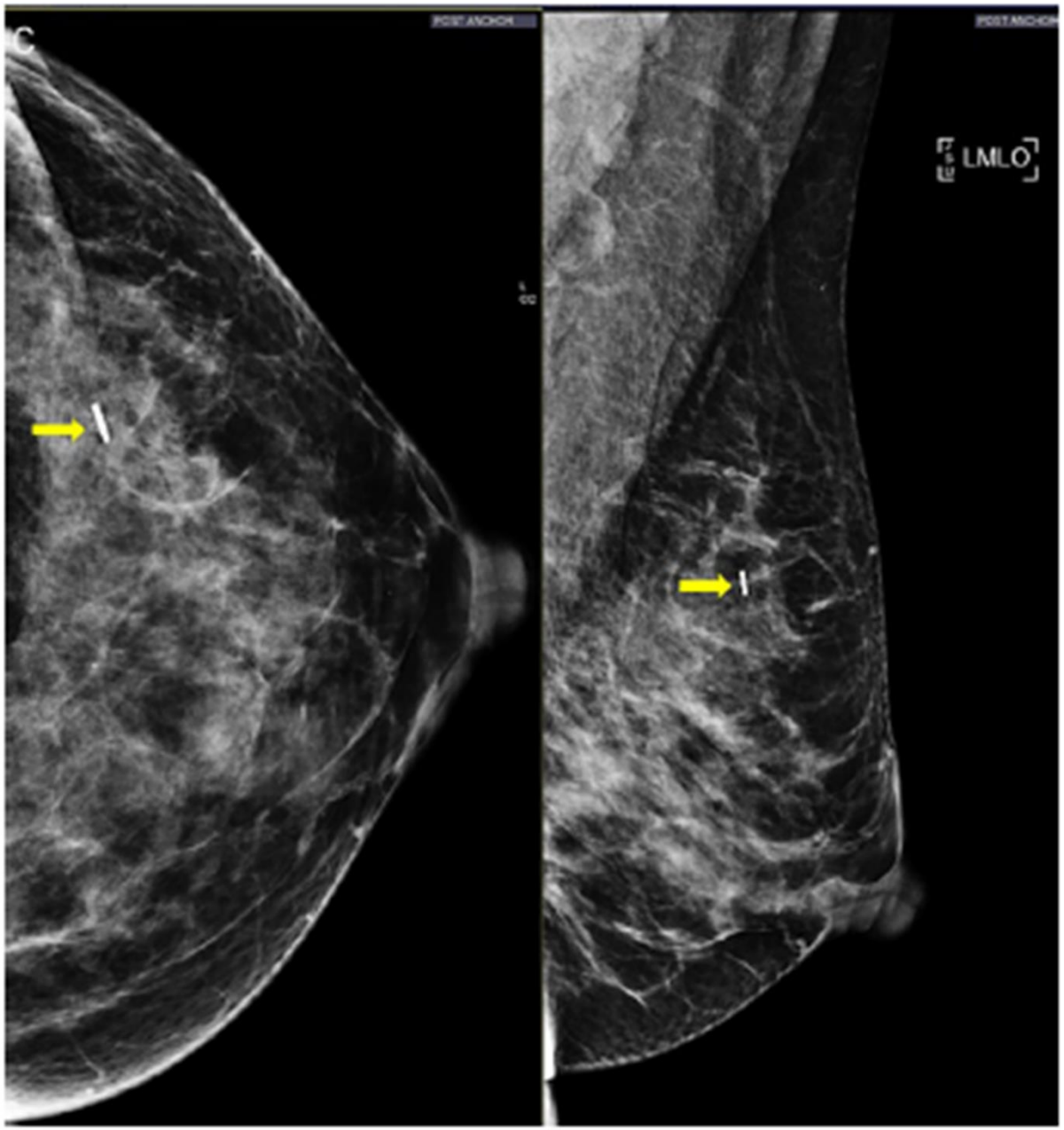

THE END

ersonal or family history. (A) Screening mammogram. (B) Screenin