**The names have been changed/kept generic for this sample**



**Case Overview**
Complications stemming from a percutaneous closure of PFO

## Patient History

**Allergies**: Anesthetic (benzocaine), Local (lidocaine), Mangifera indica fruit ext (mango) (Mangifera indica), Methylprednisolone, Tape, Lactose, Bupivacaine, Kiwi extract, Pineapple, Adhesive (wound dressing adhesive), Latex, Prednisone, and Topiramate

**Family History**: Diabetes & Thyroid disease (mother); Prostate cancer (father); Thyroid disease (Maternal aunt)

**Past Medical History**: Abnormal vision - Left eye with limited vision; Anatomical narrow angle 2022; Back pain; Bladder disorder – 2017 (bladder does not empty completely – patient stated this was a result of an anesthesia reaction); Deep venous thrombosis of distal lower extremity - 04/28/2017; DVT of deep femoral vein, right - 05/18/2021; Endometrial polyp; Fracture, Left Wrist knee and right foot from a fall – 08/2016; Gastroesophageal reflux disease; Gilbert disease - Genetic Hepatic Dysfunction; History of positive PPD; History of TIA (transient ischemic attack) – 06/05/2023; History of urinary retention: post op : urinary retention 2/2312017, 10/10/2023; Hypothyroidism; Left breast mass; Migraines; Neck pain; Other injury of muscle(s) and tendon(s) of peroneal muscle group at lower leg level, right leg, initial encounter; Peroneal tendon injury, right – 8/2016; PFO – 10/06/2023 (Aborted attempts at PFO closure due to inability to tolerate groin access given allergy to local anesthetic agents); Post-operative nausea and vomiting; Reactive airway disease that is not asthma; Sensitivity to sunlight related to migraines left eye; Transient cerebral ischemia – 04/10/2017; Left hand weakness – ongoing; Vertigo

**Past Surgical History**: Cesarean section (2012); Colonoscopy (2010 and May 2022); Diagnostic laparoscopy (2012); EGD, Colonoscopy left (July 25, 2016); Eye surgery (July 6, 2021); Iridotomy, left (May 1 and May 5, 2023); Iridotomy, right (2022); Patent foramen ovale closure (December 6, 2023); Noble stitch procedure (October 6, 2023); Repair lower extremity tendon, right (February 23, 2017)

**Social History**: -

**Home Medications**: Armour Thyroid 15mg; Aspirin EC 81mg; Clopidogrel 75mg, Nurtec 75mg; Qulipta 60mg

**Occupation:** Tax attorney

| Date | Provider | Occurrence/Treatment | Bates Reference |
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| 12/06/2023 08:50 | ABC HOSPITAL<br><br>John Doe, MD<br>Interventional Cardiology | **HISTORY & PHYSICAL**<br><br>**Interval History:**<br>Patient had no complaints. She was scheduled for patent foramen ovale closure with noblestitch device for her clinical indication of patent foramen ovale (PFO) and transient ischemic attack (TIA).<br><br>**Physical Examination:**<br>ASA Physical status: Class 2 - Mild systemic disease, no functional limitations<br>Mallampati Airway Classification: Class Ill - Soft and hard palate and base of the uvula were visible<br><br>**Laboratory Data: (dated 11/30/2023)**<br>Hgb 15.9; HCT 46.3<br><br>**Treatment/Plan:**<br>Patent foramen ovale closure with noblestitch device under deep sedation with anesthesia. | #1-2 |
| 12/06/2023 09:05 | ABC HOSPITAL<br><br>AB, MD<br>Interventional Cardiology | **OPERATIVE REPORT**<br><br>**Indications:**<br>Patient presented with a prior history of TIA and PFO.<br><br>**Preoperative & Postoperative Diagnosis:**<br>Patent foramen ovale<br><br>**Procedure**:<br>• Percutaneous closure of PFO<br>• Intracardiac echocardiography<br>• General anesthesia<br>• Ultrasound guided right femoral vein access<br>• Vascular closure with 2 perclose vascular closure device<br><br>**Final Impression**:<br>• Successful PFO closure using Noblestitch suture-mediated closure<br><br>**Treatment/Plan:**<br>• Recover in ICAR – was given Aspirin 81mg and Plavix 300mg post procedure.<br>• Discharge home later today.<br>• No heavy lifting, straining or Valsalva for 30 days<br>• DAPT x 30 days | #2-3, 6, 8-9, 24 |

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| | | • Follow up as outpatient in 1-2 weeks with Cardiology for site check.<br>• Echo with bubble study at 1 month and 6 months<br><br>**Work status:**<br>Patient may return to work two days after the cardiac catheterization unless instructed otherwise. | |
| 12/07/2023 14:52 | XYZ Hospital<br><br>JW, NP | **TELEPHONE ENCOUNTER**<br><br>**Comments:**<br>Patient had sent a message to Dr. B asking about an occasional crackling sensation in her chest when she inhalers/exhales and blood in urine for the past two days.<br>Ms. AB called the patient and was unclear what this sensation was from but opined that these were not dangerous concerns based on the patient's description of symptoms.<br><br>**Treatment/Plan:**<br>Ms. AB recommended a urinalysis with reflex to culture to rule out urinary tract infection. The patient was currently on DAPT and Ms. AB would discuss with Dr. B if holding any of the antiplatelet agents was needed at this time. Patient had a post-op appointment next Wednesday. | #27 |
| 12/11/2023 10:35 | XYZ Hospital<br><br>HC, MD | **PROGRESS NOTES**<br><br>**CC:**<br>Patient presented with postoperative problems and complained of chest discomfort and fatigue.<br><br>**HOPI:**<br>Patient had a patent foramen ovale closed on 12/06/23 and the following day, she started with chest pressure/fatigue even with minimal walking. She also felt lightheaded and dizzy and was having persistent headaches. She stated that she felt worse now than before surgery. She was scheduled for a Cardiology consultation on 12/14/23<br><br>**Physical Examination:**<br>BP 115/77<br><br>**Diagnosis**:<br>• Dyspnea, unspecified type<br>• Chest pain, unspecified type<br>• PFO (patent foramen ovale) | #28-32 |

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| | | • History of DVT (deep vein thrombosis<br><br>**Treatment/Plan:**<br>Unclear cause of chest pain, fatigue and dyspnea on exertion. The patient was recommended to go to the Emergency Room for further evaluation. EMS was offered, which she declined; she planned to go with her husband. | |
| 12/11/2023 11:53 | ABC Hospital<br><br>AT, MD | **DIAGNOSTIC RADIOLOGY**<br><br>**X-ray Chest:**<br>**History:**<br>Chest pain.<br><br>**Impression:**<br>No acute cardiopulmonary process. | #230 |
| 12/11/2023 12:29 | ABC Emergency Department<br><br>CD, MD | **EMERGENCY DEPARTMENT PROGRESS NOTES**<br><br>**CC**:<br>Chest pain.<br><br>**HOPI:**<br>Patient with chest pressure/fatigue, shortness of breath, dyspnea on exertion even with minimal walking/lightheaded, dizzy. She felt her right leg was more swollen than the left, but her PCP was of the opinion that they both appeared equally swollen. Her symptoms of shortness of breath and dyspnea on exertion were worse than before surgery.<br><br>**Physical Examination:**<br>BP 136/88<br>Patient had ambulatory saturations of 99-100% and started to have chest pain and heart rate went to 110; heart rate resolved back to 70s upon sitting down<br><br>**Radiology Report:**<br>Patient's EKG was normal. CTA chest for pulmonary embolism was negative.<br>Duplex ultrasound of bilateral lower extremities was obtained with no signs of DVT or other concerns.<br>Chest x-ray did not show any acute cardiopulmonary process<br><br>**Laboratory Data:**<br>Labs were without electrolyte or metabolic abnormalities | #33-38 |

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| | | **Medical Decision Making:**<br>Overall not entirely explained reason for patient's chest pressure and shortness of breath or dyspnea on exertion.<br>Recent PFT evaluated with ECHO and was found to still be open, however, per cardiology's report, it can remain open for up to six months before it epithelializes.<br>Patient without persistent cough fevers or other concerns for acute infectious symptoms and CTA of chest without airspace disease present. Patient was not appearing fluid overloaded and BNP of 38 which was not concerning.<br>On the recommendation of cardiology, a Duplex ultrasound of the bilateral lower extremities was obtained with no signs of DVT or other concerns.<br>Ambulatory saturations of 99-100%; patient started to have chest pain and heart rate went to 110. Heart rate resolved back to 70s upon sitting down.<br><br>**Emergency Department Stay:**<br>The patient was administered Iohexol 350mg/mL injection<br><br>**Diagnosis**:<br>• Chest pressure<br>• Patient foramen ovale<br><br>**Treatment/Plan:**<br>Cardiology updated that CTA did not show effusion and results of walking O2 sat, heart rate and symptoms while ambulating. Dr. CD agreed with admission for follow-up on ECHO bubble study final read, ESR/CRP results. She recommended additionally to trend troponins as well. Patient was admitted to the medical floor on telemetry. | |
| 12/11/2023 12:52 | ABC Hospital<br><br>SD, MD | **CARDIOLOGY CONSULTATION**<br><br>**HOPI:**<br>Patient with a history of TIA, migraine, Hashimoto's, DVT, and PFO, presented to the hospital on 12/11/2023 with chest pain and dyspnea on exertion that was worse than pre-PFO closure. She felt worse now than before her surgery. PCP recommended she go to the ER this morning. Patient stated that on Wednesday night she felt fine. Then Thursday she felt a gurgling sensation in her chest, almost similar to how she felt when she had had bronchitis before. On Friday, she started feeling chest pressure that felt | #62-65 |

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| | | constant, but was worse with going up the stairs and she had to stop to catch her breath. She complained getting winded with very minimal activity such as walking a short distance or having a conversation, which she was not having pre PFO closure. She felt dizzy with position change such as sitting up. She had a history of migraines on the left side of her head and currently had a headache. This morning her PCP noticed that her right leg was swollen. She stated that she did not notice that until today but that her calf did feel warm and tender and felt like a throbbing sensation. It was the same leg she has had a DVT in in the past that caused her TIA. She had a Noble Stitch procedure and a device was not inserted.<br><br>**Physical Examination:**<br>BP 136/88; WT 155lbs; BMI 30.27<br><br>**Radiology Report**:<br>Exercise stress test dated 07/08/21 revealed normal resting blood pressure with normal response to exercise; normal treadmill EKG stress test without evidence of exercise-induced myocardial ischemia.<br><br>Chest x-ray done at 11:51 was negative for any acute cardiopulmonary process.<br><br>**Diagnosis**:<br>• S/p PFO closure on 12/6/23<br>• Chest pain - TTE with normal LV function, EF 64%. No pericardia! effusion. Bubble study was positive with right to left shunting, but expected immediately after PFO closure.<br>• Dyspnea on exertion - significant reduction in exercise tolerance<br>• History of TIA<br>• Migraines<br>• History of DVT - CTA negative for PE<br>• Hashimoto's<br><br>**Treatment/Plan**:<br>Patient ambulated in the Emergency Department, oxygen saturated stable but heart rate was markedly elevated with significant dyspnea on exertion. Furthermore chest pain improved with sitting up. EKG without evidence of pericarditis. ESR and CRP were recommended and patient was to be observed overnight. | |
| 12/11/2023 14:27 | AB Hospital | **DIAGNOSTIC RADIOLOGY** | #231-232 |

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| | PN, MD | **CT Angiogram Chest:**<br><br>**History**:<br>Leg swelling and dyspnea on exertion. Recent procedure. Rule out pulmonary embolism.<br><br>**Impression:**<br>• No detectable pulmonary embolism.<br>• No pneumonia | |
| 12/11/2023 15:29 | AB Hospital<br><br>SA, MD | **ECHO TRANSTHORACIC ADULT COMPLETE**<br><br>**Indications:**<br>Shortness of breath with high cardiac risk.<br><br>**Summary:**<br>• The left ventricle is normal in size.<br>• Left ventricular systolic function is normal with an estimated ejection fraction of 65 %.<br>• Left ventricular diastolic filling parameters demonstrate normal diastolic function.<br>• Normal RV size and function.<br>• The left atrium is normal in size.<br>• Large numbers of microbubbles attain the left heart with saline contrast.<br>• There is mild mitral regurgitation.<br>• No pulmonary hypertension with estimated right ventricular systolic pressure of 24 mmHg.<br>• The aortic root is normal in size at 2.8 cm in diameter.<br>• No pericardial effusion visualized.<br>Compared to prior study on 7/8/2021, there is now mild mitral regurgitation. Otherwise no significant change. Patient is now status post PFO closure with one noblestitch device. | #233-237 |
| 12/11/2023 17:14 | AB Hospital<br><br>BG, MD | **ULTRASOUND VENOUS LOWER EXTREMITY DUPLEX DOPPLER**<br><br>**History:**<br>Lower extremity edema due to the patient's inability to tolerate compressions within the right groin<br><br>**Impression:**<br>• Limited evaluation of the right groin<br>• No sonographic evidence for right or left lower extremity deep venous thrombosis | #238-239 |
| 12/11/2023 20:27 | ABC Hospital<br><br>AT, DO<br>Internal Medicine | **HISTORY & PHYSICAL**<br><br>**HOPI**: | #46-55 |

Patient underwent PFO closure on 12/06/23 with Dr. E and stated that the next day she started feeling strange gurgling sensations in her chest which progressed to chest pressure that worsened with exertion; she developed significant dyspnea on exertion. She was feeling worse than before her PFO closure and complained of dizziness with changes in position. She went to see her PCP earlier today who pointed out that her right lower extremity was swollen, and sent the patient to the hospital for evaluation. In the Emergency Department, VSS and labs were grossly unremarkable. Chest x-ray was negative, CTA chest was negative, and the lower extremity Doppler was negative for DVT. TTE revealed EF 65%, normal diastolic function, and a positive bubble study. Cardiology and Dr. Epps were consulted and they did not suspect this was due to adverse sequelae from recent PFO closure. They stated "residual shunt is not unexpected this early. It can take up to six months for it to close completely as the device endothelializes". There was no indication for transfer at this time and patient was recommended admission for overnight observation. Patient ambulated in the ER, became tachycardic and short of breath with short distances, but vitals quickly normalized when at rest.

**Physical Examination:**
BP 121/80; WT 155lbs

**Radiology Report:**
EKG done at 11:18 revealed normal sinus rhythm, low voltage QRS, and unable to rule out anterior myocardial infarction. When compared with EKG of December 6, 2023, no significant change was found.

Transthoracic echocardiogram performed on 12/11/23 was reviewed. Ultrasound venous Doppler lower extremity bilateral performed on 12/11/23 was reviewed as well. CT angiogram chest and chest x-ray were further reviewed.

**Diagnosis:**
- Chest Pain, dyspnea on exertion, exertional tachycardia
- History of PFO status post closure
- Hypothyroidism
- History of DVT

**Treatment/Plan:**

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| | | Case was reviewed by Fairfax Interventional Cardiology and there was no indication to transfer; they did not suspect PFO closure to be source of the patient's symptoms. Thyroid panel was recently drawn and it showed T3 mildly elevated. The patient was recommended to continue Armour Thyroid. Lower extremity Doppler was negative for DVT. | |
| 12/12/2023 00:43 | Inova Fair Oaks<br><br>Sylvie K, RN | **NURSING NOTE**<br><br>**Comments:**<br>Patient complained of discomfort and pain at the RAC IV site and wanted the IV out and refused the insertion of another IV access. Patient was educated about the importance of IV access in case of emergency. Patient still refused new IV access insertion and stated that she will leave the hospital if she need to have an IV access. NP called and made aware. Charge RN also educated the patient without success. AMA form was presented to the patient since she wanted to leave the hospital and patient changed her mind. New IV access was inserted at the RFA, which the patient tolerated well. The RAC IV line was removed. | #86-87 |
| 12/12/2023 09:36 | Inova Fair Oaks<br><br>Michael Foster, MD<br>Interventional Cardiology | **INOVA CARDIOLOGY PROGRESS NOTE**<br><br>**Subjective Complaints:**<br>Patient was tachypneic and lying in bed; she was working harder to breathe than when seen a day before. She stated that she felt she was working hard to breathe. She also complained of pain on the left side of her chest with radiation to her shoulder. Her left (s/b right) hand felt much colder than her left. She further added that it feels "cold and weird." Patient felt better sitting up and was worse lying flat in terms of her breathing.<br>Patient was orthostatic this evening (s/b previous evening) when checked and felt "woozy" while standing at bedside and while walking to the bathroom.<br><br>**Physical Examination**:<br>BP 108/61; Pulse 86; RR 18; WT 157.3lbs; SpO2 100%; BMI 30.7.<br>Lungs were tachypneic at rest. Clear to auscultation bilaterally.<br>Fingers were cold to touch; right hand minimally cooler than her left hand.<br><br>**Assessment:**<br>• S/p PFO closure on 12/6/23 | #80-86 |

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| | | • Chest pain - TTE with normal LV function, EF 64%. No pericardial effusion. Bubble study was positive with right to left shunting, but expected immediately after PFO closure<br>• Dyspnea on exertion - significant reduction in exercise tolerance<br>• History of TIA<br>• Migraines<br>• History DVT - CTA negative for PE<br>• Hashimoto's<br><br>**Treatment/Plan:**<br>The patient did look visibly short of breath when speaking in two or more sentences yet Pulse Ox reading was 100% the entire time when she appeared this way. The patient's echocardiogram yesterday was compared with the echocardiogram done in 2020 and there was obvious increase in the amount of Right-to-Left Shunting during the Bubble study which would not be expected in setting of recent Noblestitch. The Video of the bubble study was reviewed with Dr. Kelly Epps.<br>Dr. Foster was unable to explain the coolness of the right upper extremity compared with the left upper extremity. He recommended imaging of the right upper extremity arterial system as today's imaging only included Doppler of veins. CT of the right upper extremity with contrast was recommended. The patient was to continue Telemetry.<br>The patient's BP fell from 136/83 mmHg lying down to 95/67 mmHg standing with no change in heart rate, consistent with orthostatic hypotension mostly – patient to be given 500cc normal saline slowly overnight tonight. It was further recommended to repeat Orthostatics and pulse oximetry in the morning. | |
| 12/12/2023 09:52 | Oats Avoni<br><br>VP, MD | **DIAGNOSTIC RADIOLOGY**<br><br>**X-ray Chest:**<br>**History:**<br>Shortness of breath and hypoxia.<br><br>**Impression**:<br>No acute cardiopulmonary disease. | #240 |
| 12/12/2023 10:40 | Quinoa Oaks<br><br>ES, PT | **PT PROGRESS NOTE**<br><br>**Comments:**<br>Patient was not seen secondary to RN request due to chest pain and fatigue. | #97 |
| 12/12/2023 10:44 | Quinoa Oaks | **SOCIAL WORKER NOTE** | #86 |

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| | PN, LMSW | **Comments**:<br>Case Manager discussed plan of care and possible discharge needs with patient. Patient lived with family and was independent with ADLs. She did not report owning any DME, and no needs or concerns were expressed during the visit. PT/OT to evaluate.<br>The patient was assessed to have cognitive ability to participate in care decisions and follow-up care as needed. | |
| 12/12/2023<br>11:50 | Quinoa Oaks<br><br>BK, MD<br>Internal Medicine | **HOSPITALIST PROGRESS NOTE**<br><br>**Subjective Complaints:**<br>Patient states that left-sided chest pain and shortness of breath had been ongoing since surgery and was persisting longer. The pain also radiated to her left arm. The patient further complained of right-hand numbness and cold sensation. Oxygen improved the chest pain while PA-C/MD were was at her bedside<br><br>**Physical Examination:**<br>BP 103/69<br>Pulmonary exam: On 2L NC. Mild tachypnea and mild respiratory distress. Lungs were clear to auscultation bilaterally.<br><br>**Assessment/Plan:**<br>• Chest pain and shortness of breath: Discomfort did improve with some supplemental oxygen this morning. If tachypnea persists and if clot work up negative then consider further evaluation with ABG vs VBG. Continue telemetry monitoring. Check orthostatics once patient was more stable<br>• Right hand tingling/coldness: Concerns for acute clot, ordered stat right upper extremity Doppler. Patient did have history of cervical spine disease, consider further spine imaging if symptoms persist and the ultrasound is negative<br>• Recent PFO closure at Fairfax on 12/6/23: Cardiology in contact with surgeon, continue telemetry monitoring, Aspirin, and Plavix<br>• Hypothyroidism: Continue Armour; TSH was normal<br>• History of DVT: Right lower extremity Doppler was negative. Patient was recommended to check right upper extremity Doppler stat.<br>• History of CVA in setting of PFO: Recommended to continue DAPT (Dual antiplatelet therapy)<br>• Class I Obesity BMI 30.70: Weight loss recommended. | #75-80 |

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| 12/12/2023 12:32 | Quinoa Oaks<br><br>JK, MD | **ULTRASOUND VENOUS UPPER EXTREMITY DUPLEX DOPPLER, RIGHT**<br><br>**History:**<br>Arm DVT suspected.<br><br>**Impression:**<br>No sonographic evidence for right upper extremity deep venous thrombosis | #241-242 |
| 12/12/2023 13:52 | Quinoa Oaks<br><br>ES, PT | **PT PROGRESS NOTE**<br><br>**Subjective Complaints:**<br>Patient was agreeable to participate in the therapy session.<br><br>**Prior Level of Function:**<br>Ambulates independently; Independent with ADLs.<br>Baseline Activity Level: Community ambulation<br>Ambulated 100 feet or more prior to admission: Yes<br>Cooking: Yes<br>Employment: Full time<br><br>**Home Living Arrangements**:<br>Living Arrangements: Lived with spouse/significant other and children<br>Type of Home: House<br>Home Layout: Two level<br><br>**Objective Findings:**<br>Patient was in bed with telemetry in place<br>Functional Mobility: All independent, except sit to stand and stand to sit, which required supervision.<br>Transfers: Bed to chair and chair to bed with minimal assist.<br>Balance: Sitting static and dynamic – Independent<br>Balance: Standing – Static: CGA x1<br>Standing: Dynamic: Minimal assist<br>PT Basic Mobility Raw Score: 18<br>Locomotion: Ambulation - Minimal Assist (200'); Pattern - shuffle; decreased cadence; decreased step length<br><br>Participation Effort: excellent.<br>Endurance did not limit participation in activity<br><br>**Assessment:**<br>Decreased balance; Decreased functional mobility; Gait impairment.<br>Patient's functional mobility was limited by decreased balance and dizziness. Patient's SPO2 was 99-100% | #97-103 |

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| | | ambulating on room air with heart rate in 100s. Patient complained of dizziness, sat in chair and BP was 128/87. No nystagmus was noted.<br><br>**Prognosis**:<br>Good; with continued PT status-post acute discharge,<br><br>**Treatment/Plan:**<br>Patient was recommended four to five therapy sessions per week<br><br>**Discharge Recommendations:**<br>Patient was recommended to be discharged to home with home health PT, home with supervision. DME needs included front wheel walker (junior). | |
| 12/13/2023 8:51 | Quinoa Oaks<br><br>AA, MD | **CARDIOLOGY PROGRESS NOTE**<br><br>**Subjective Complaints:**<br>Today her shortness of breath was better with oxygen. BP was soft and she was receiving IVF (intravenous fluids)<br>Per nursing team, the patient walked around the nurse's station this morning and felt dizzy and her knee gave out - despite ambulating with a walker and a gait belt with physical therapy. RN stated that patient told her that she was having to go down the stairs on her bottom at home.<br><br>**Physical Examination:**<br>NP 90/58; pulse was 80; respiration rate was 16; weight was 71.3kg; BMI was 30.70; SpO2 was 98%<br><br>**Laboratory Data:**<br>Glucose was 113<br><br>**Assessment/Plan:**<br>• Cause of her dyspnea was not clear.<br>• Chest pain: TTE with normal LV function, EF 64%. No pericardial effusion. Bubble study positive with right to left shunting. Troponins negative<br>• Positive orthostatics and dizziness, balance issue, neurology was consulted<br>• History of TIA<br>• Migraine headache<br>• History of DVT - CTA negative for PE<br>• Hashimoto's<br><br>**Discussion:** | #65-68 |

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| | | Jessica Watts, FNP/ Afrooz Ardestani, MD discussed the case with Dr. Epps; the cause of her shortness of breath was not clear. Her symptoms started after the PFO closure procedure. Her interatrial shunt was worse but she was not hypoxic at rest or with ambulation. It was recommended to stop O2 and re-attempt to ambulate and assess her O2 sat. If she felt better and O2 sat was ok, it was recommended to consider discharging the patient and schedule her for TEE and stress test as an outpatient. Otherwise, she would be transferred to FHX for inpatient cardiac work up and structural heart reevaluation, after the brain MRI/MRA.<br>The patient was further recommended to continue telemetry and Brain MRI/MRA was requested by neurology to rule out embolic event as a cause for her balance issue. | |
| 12/13/2023<br>9:50 | Quinoa Oaks<br><br>BD, MD<br>Neurology | **CONSULT NOTE – NEUROLOGY**<br><br>**CC:**<br>Dizziness and headache<br><br>**HOPI:**<br>Patient recently underwent PFO closure on 12/6/23 with Dr. Epps (interventional cardiology) at Inova Fairfax Hospital. The same night she had an acute onset dizziness with walking and the sensation of being pulled to one side. She also had sharp headache around the left eye and retro-orbital pain which was different from her usual migraines. The next day she began feeling strange gurgling sensations in her chest which progressed to chest pressure that worsened with exertion, and she had significant dyspnea on exertion. Since the PFO closure the patient has had daily headaches, sharp and intense in nature. Her normal preventative medications were not working. The pain was intensified behind her left eye. On exam her vision was diminished in the left eye. The vertigo feeling occurred when she was up and walking, relieved with sitting down. There was no syncope or feeling of passing out. There were no changes to hearing, speech, focal motor weakness, or numbness. Dizziness was not part of her typical migraine pattern. She had been on Aspirin and Plavix since PFO closure, taking them every day.<br><br>**Physical Examination:**<br>BP 90/58; SpO2 98%<br>Visual field: Blurred vision in the left eye | #55-62 |

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| | | **Radiology Report:**<br>MRI brain dated 04/01/23 was reviewed and it showed no acute intracranial abnormality. Mild white matter changes were nonspecific but could be seen in the setting of migraine headaches.<br>MRI brain dated 07/17/2017 was reviewed and it showed no acute findings.<br><br>**Assessment:**<br>• Dizziness<br>• Headache, different from typical migraine pattern<br>• History of TIA with recent PFO closure on 12/6/23. On DAPT<br>• Migraines, followed by Dr Ospina<br>• Hypothyroid<br>• Exertional dyspnea<br><br>**Treatment/Plan:**<br>• HCT was negative, can miss small infarcts. Recommended MRI Brain with MRA to rule out stroke.<br>• Continue DAPT for stroke prevention<br>• Check lipids and A1c. TSH normal, on Armour thyroid.<br>• TTE: EF 65%, normal RV/LV function, status post PFO closure with one noblestitch device. Bubble study positive with right to left shunting<br>• Patient was recommended modified headache cocktail (avoiding Toradol while on DPAT) 25mg IV Benadryl q6H, 10mg IV, Compazine q6H 1g IV magnesium sulfate BID, and fluids. If above was ineffective, recommended adding 500mg IV Depacon BID | |
| 12/13/2023<br>12:11 | Quinoa Oaks<br><br>BC, MD | **DIAGNOSTIC RADIOLOGY**<br><br>**CT Head**<br>**History:**<br>Dizziness<br><br>**Impression:**<br>• No acute process, no change.<br>• No bleed, mass, or hydrocephalus.<br>• No appreciable acute infarct.<br>• Vascular calcifications and chronic ischemic changes are present. | #245-246 |