Date: July 21, 2021

Primary Case Author: Paul Williams, MD

Secondary Case Author: None

Standardized Patient Educator: Lee Kiszonas

Name of Case: Polypharmacy Case

Name of educational and or assessment activity: Telemedicine Polypharmacy Case

Patient Name: Maria Rivera

Chief Complaint: follow-up Hypertension / Medication reconciliation

Most likely Diagnosis and Differential with rationale from history and/or physical exam:

Most Likely Diagnosis: Hypertensive Urgency 2/2 Medication Non-adherence and Polypharmacy

Differential:

Hypertension

Refractory Hypertension

Secondary Hypertension

Hypertensive Urgency

Hypertensive Emergency

Polypharmacy

Medication non-adherence

Challenge question: “Please don’t tell my daughters that I’m such a bad patient!” Patient is also concerned that the clinician will be angry that she is not taking her medications, and until rapport is built, will hide her poor medication adherence.

Domains: Check all that apply

Professionalism

Communication and Interpersonal skills

Medical History

Physical exam

Shared Decision Making

Patient Education

Clinical Reasoning

Documentation

Handoff

Presentation

Other:

Type and level of learner: Third-year medical student

Case Objectives: please list specific objectives for each of the domains you have checked above:

1. Recognize and intervene polypharmacy
2. Appreciate the limitations of telemedicine for chronic disease management
3. Understand the utility of telemedicine for chronic disease management
4. Demonstrate the ability to triage symptoms appropriately
5. Recognize limited health literacy and its impact on ongoing care

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| SETTING: | Outpatient |
| PATIENT PROFILE: | |
| Age range | 40+ yo |
| Religious/spiritual background | Non-religious |
| Sex (e.g., male, female, intersex, transwoman, transman) | Female (but SP can alternatively be male) |
| Sexual Orientation (e.g., heterosexual, lesbian, gay, bisexual, pansexual, queer, asexual) | Straight |
| Gender expression (e.g., man, woman, gender queer) | Woman |
| Race/ethnicity: | Any |
| Physical description (e.g., BMI, height range) | Overweight |
| Physical limitations | None |
| Patient appearance (e.g., disheveled, hospital gown, business casual, casual) | Casual |
| Moulage + location (e.g., none, bruises, scars, body piercing, tattoos) | None |
| Affect (e.g., pleasant, cooperative) | Open and engaged, appropriate eye contact, Slightly anxious |
| Family group (e.g., who is family, who they live with) | Lives alone in an apartment. Divorced and currently single. Two daughters who help her out around the house and check in from time to time. |
| Education | Completed high school |
| Level of health literacy | Limited |
| Employment, if any - present and past, noting any current stresses | Works for Philadelphia Parking Authority in the collections department. “Can't imagine why I have high blood pressure!” |
| Home/homeless - type of dwelling, number of stories, owned or rented | Lives alone in an apartment |
| Financial situation- any current stresses | None |
| Insurance Status (e.g., un/under/insured, public/private, HMO/PPO) | HMO/PPO |
| Habits (i.e., diet, exercise, caffeine, smoking, alcohol, drugs) | No drug, tobacco or alcohol use  Diet: Frequent rice, chicken and seafood  Exercise: none |
| Activities (i.e., hobbies, sports, clubs, friends) | Knitting and cooking |
| Typical day - what is the usual daily routine | Works during the day, spends evenings and weekends at home with hobbies and household chores |

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| CASE INFORMATION | |
| Chief Concern: What the patient will say when greeted by the student. The patient’s primary reason for seeking medical care often stated in his/own words. | “My kids are worried about my blood pressure” |
| Additional Concerns: Other, if any, concerns the patient has today (i.e., symptoms, requests, expectations, etc.) that will become part of set agenda. | Expectation: Discharging an obligation to her daughters is her main concern. “Just tired of them nagging me…and they do have a point.” “I must admit it is weird that that number just won’t go down!” |
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| THE PATIENT STORY: The SP will be asked to tell their symptom story and the personal and emotion impact for each of their concerns. You will want to write this is the patient voice. The symptom story should be able to answer this question: “Tell me more about [chief concern/additional concern], starting at the beginning and bringing me up to now.”    The personal context should be able to answer questions concerning the broader personal/psychosocial context of symptoms, especially the patient beliefs/attributions.    The emotional context should be able to ask how are you doing with this, how does this make you feel, how has this affected you emotionally? IMPACT: How has this affected your life? How has this been for your family? | “Every time I check my blood pressure at home, the top number is higher than 160. I feel fine, and I’m taking my medications like I’m supposed to, so I’m not sure what’s going on?”  “I don’t feel bad, although I do get headaches sometimes.”  If asked specifically about adherence and rapport is built: “Sometimes I miss a dose here or there. Sometimes I don’t take one or two of the pills, especially if I feel a little dizzy”. She can share that the furosemide makes her urinate, so she will skip this if she is going to be out in public and can’t make it to a bathroom.  If asked about adverse side effects of medications or other problems she is having, the patient will report that she doesn’t like how some of the medications make her feel. The diuresis of the furosemide is bothersome to her, and she often skips this. She also feels that the medications are causing her dizziness, and so she will skip them sometimes. She doesn’t tell her daughters this.  Expectation: Discharging an obligation to her daughters is her main concern, but “I must admit it is weird that that number just won’t go down!”  Impact on patient’s life: “My daughters are really concerned…they all look at the WebMD thing so everybody’s a doctor.”  Concerns/fears: Concerned that the clinician will be angry that she is not taking her medications (Note for SP: Rapport building would make the patient more likely to disclose her non-adherence, but the patient wouldn’t lie outright if asked directly. She may minimize how often she misses doses or doubles up. Make note of how this is approached for feedback. If asked “anything else” at closure- the patient would “confess” to her non-adherence if rapport is such that she would not expect judgement.)  What do you think this is? Not really sure.  Background information: Her doctors (“They’re always graduating, so I always get a different doctor!”) have been escalating her therapy without thoroughly checking for adherence. So one physician increased her dose of Lisinopril from 5mg to 20mg without explaining to stop taking the 5mg and to throw away the previous prescription. Due to a cough with the lisinopril, this was changed to losartan 50mg at the last visit (this is written in the clinic note provided to patient). |
| HISTORY OF PRESENT ILLNESS: Although some of the HPI will be given in the patient’s symptom story, the learners will expand the story during the direct question section. Below describe the detailed history, usually about the chief concern, which the student must develop in order to make a useful assessment of the problem: | |
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| Onset (when; gradual or sudden) | “It’s always been high, but never this high.”  ”Maybe 6 months.” |
| Setting (what was going on or where was patient when symptoms first noticed?) | Blood pressure always high when checks it at home and when last checked in office |
| Duration (how long) | Chronic, 6 months |
| Time relationships (frequency, constant or intermittent) | Blood pressure is high whenever it is checked |
| Location | N/A |
| Radiation | N/A |
| Quality | N/A |
| Amount | N/A |
| Aggravated by what | Nothing |
| Relieved by what | Nothing. What she has tried: “I take all of my medications in the morning.” |
| Associated with what | Headache – bitemporal, occurs 3 times per week; 4/10; no neurologic deficits, phonophobia, photophobia, pulsatility, double vision, etc.  Dizziness - “It’s not like the room is spinning, I just feel a little unsteady.” occur a few times per week. occurs with position changes (standing from sitting); it lasts for a few moments, and resolves on its own. |
| Attitude (what does the patient think is the problem, and how does he/she feel about it) | What does patient think is the problem? Not really sure, she is taking her medications mostly  Mainly it is her daughters who are worried, but she thinks they may be right to be worried |
| Overall course |  |
| REVIEW OF SYSTEMS: Significant positives and negatives | |
| Positive for headache (see above), dizziness (see above), excessive urination (knows it is due to furosemide), chronic blurry vision (due to not wearing prescribed glasses) which is not worse than usual | All other ROS negative, including chest pain, shortness of breath, change in vision, numbness/tingling, weakness, leg edema/swelling |
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| Past medical history |  |
| Medication allergies (Name and reaction) | None |
| Environmental allergies (Name and reaction) | None |
| Illnesses | Hypertension |
| Vaccinations | Up-to-date |
| Surgeries | None |
| Accidents/ injuries/ trauma | None |
| Hospitalization | For 2 vaginal deliveries |
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| Inclusive sexual and reproductive history | |
| Sexual practices  Sexual partners  Protection: Use of safer sex practices  Use of birth control if appropriate  Risk of intimate partner violence | Not currently sexually active, usually with men, last was 10 years ago (with ex-husband)  Two lifetime partners |
| Ob/GYN HISTORY | G2P2002, both vaginal deliveries |
| Medications | Patient unable to name them from memory. Reports that she takes “3 or 4” pills for her blood pressure. She is unable to name what medications she takes, or their doses. Has the following medication bottles that she can show to student: Lisinopril 5 mg, Lisinopril 20 mg, losartan 50 mg, amlodipine 5 mg, furosemide 40 mg |
| Immunizations | Tetanus  Flu  Hepatitis  Pneumovax  HPV |
| Tobacco products:  Cigarettes  Cigar  Pipe  Chew  E-cigarettes | Never  Past- year started/year quit  Current |
| Alcohol  Beer  Wine  Liquor  Other | Never  Past- year started/year quit  Current |
| Drugs  Weed  Cocaine  Heroin  Meth  Other  IV  Inhalants  Other | Never  Past- year started/year quit:  Current  # of years: |
| Diet (describe) | Frequent rice, chicken and seafood |
| Exercise (describe) | None |
| List any other important social history or information important to this case | Two daughters who help her out around the house and check in from time to time. They help coordinate patient’s visits and medications. |
| Family history |  |
| Mother, Father, Siblings, Grandparents, and other significant findings. | Mother died at age 87 of pancreatic cancer; father at age 90 of old age. Has two daughters, both of whom are healthy. |
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| Physical Exam- List exam maneuvers expected for this case and any abnormal findings that SP will simulate. (tenderness, hyper-hypo reflex, rebound, weakness etc. )  General: SP is no acute distress  Affect: slightly anxious and confused  Rest of exam is not expected to be done.  If performed, pulse is regular and normal, respiratory rate is normal and no increased work of breathing, no neurologic deficits  Props:   * Multiple pill bottles (with different pharmacies and fill dates): amlodipine 5 mg, amlodipine 10 mg, Lisinopril 5 mg, losartan 50 mg, furosemide 40 mg once daily, HCTZ 25 mg   + SP to show student if asked. She has difficulty reading the labels. She needs reading glasses but doesn’t like to wear them. She will fuss about trying to find where she put them if reminded. * Blood pressure cuff machine optional | |
| PHYSICAL EXAM FINDINGS |  |
| 1)          Written in layman’s terms | See above |
| 2)          General appearance- affect, appearance, position of patient at opening (i.e. sitting, laying down, holding abdomen etc.) | Sitting |
| 3)          Vital signs | BP 165/100 is the last recorded blood pressure, or pretend blood pressure reading if blood pressure cuff machine is used |
| 4)          Specific findings and affect | Slightly anxious and confused |
| 5)          Response to certain physical movements | Nothing abnormal |
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| DIAGNOSIS AND DIFFERENTIAL |  |
| Diagnosis with support from positive and negative history and PE findings | Hypertensive Urgency 2/2 Medication Non-adherence 2/2 Polypharmacy – blood pressure is elevated without any signs or symptoms of end-organ damage. Due to medication non-adherence, possible undertreatment and/or possible secondary hypertension |
|  | Hypertensive Emergency – blood pressure is highly elevated |
|  | Refractory or Secondary Hypertension – patient’s blood pressure is above goal despite being on 3-4 anti-hypertensives |
|  | Medication Non-adherence – patient is not properly taking medications due to multiple reasons (poor health literacy, physician not doing medication reconciliation before making medication changes, physician not counseling clearly and ensuring patient understanding, patient not understanding instructions) |
|  | Polypharmacy – patient is on 4+ medications |
| MANAGEMENT OR DIAGNOSTIC PLAN | Anti-hypertensive medication regimen non-adherence need to be addressed.  Student should do a medication reconciliation and may propose an appropriate anti-hypertensive regimen (including eliminating duplicative medications (e.g. choosing either ACE Inhibitor or ARB, preferably losartan due to cough with lisinopril).  Since blood pressure is uncontrolled, student may propose increasing regimen (e.g. increase amlodipine dose). If a medication regimen is decided on, student needs to clearly communicate this to the patient and ensure that patient clearly understands what she should take. Alternatively, student can defer deciding on a medication regimen and have patient follow-up in clinic (with medications in-hand) with primary care doctor to decide together at that time.  Student should also propose a plan for follow-up (ideally in clinic in no more than 4 weeks and bring medications to visit). (Since this is hypertensive urgency not emergency, her hypertension can be managed outpatient without emergent evaluation in ER/hospital, although this plan would also be reasonable as well.)  Student may recommend patient to continue to monitor blood pressure.  Student may counsel on need for medication adherence.  Student may counsel on ER precautions. |
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| PROFESSIONALISM ISSUES OR CHALLENGES: | Student should recognize and address the medication non-adherence and issues with polypharmacy.  Telemedicine skills:   * Confirm patient identifiers * Appropriately set up telemedicine encounter and confirm that patient’s technology is working * Confirm SP’s videocall functionality   Medical History, Physical Exam:   * Obtain targeted history and limited physical exam (mostly visual inspection) appropriate for follow-up of hypertension * Needs to obtain history information that indicates that patient has medication non-adherence and struggles with polypharmacy and poor health literacy * Determine medications that patient is taking and/or has   Clinical Reasoning, Shared Decision Making:   * Student should recognize that blood pressure is uncontrolled.   Clinical Reasoning, Shared Decision Making:   * Student should try to come up with patient an anti-hypertensive regimen that patient understand and can follow   Communication and Interpersonal Skills, Patient Education, Professionalism:   * Clearly communicate recommended management plan (medications, follow-up) and ensure that patient understands * Counsel on ER precautions |