U.S. Department of Veterans Affairs
Veterans Health Administration
VA Portland Health Care System

VA INPATIENT CARDIOLOGY CONSULTS ROTATION

RESIDENT ORIENTATION GUIDE 2023-2024

Updated 2023.04.23

Orientation

In addition to this written orientation, please check in with consult attending and ask him/her to give you a brief verbal orientation on the expectations for this rotation on the first day.

Nuts and Bolts for the First Day

We begin at 8 am, on the morning of your first day. Please page the consult fellow at 7:55 am or come to the consult work room at the VA, Building 100, Room 4C-132. The fellow will assign you old consult patients to see for follow-up and/or new consult patients. Please discuss with the fellow when you will be rounding for the day. Please also clarify with your team your schedule for the rotation including time off for interviews, vacation, etc.

Conference Schedule

When on sub-specialty consult rotations, residents are expected to be freed from clinical responsibilities during the noon hour to attend IM residency educational conferences (core curriculum series and noon report, occurring noon-1pm daily). Attendance at sub-specialty conference is encouraged. If the timing of a sub-specialty conference conflicts with IM core conferences, then the program requests prioritization be given to attendance at the IM conferences, unless it is deemed by the resident or faculty that there is an individual resident educational goal that would be met by attending the sub-specialty conference.

The most important conference for the consult team is the Thursday 8 AM combine Cardiology-CT surgery conference. This conference is held in the Echo reading room, 4th floor of the VAMC, room 4C-131. All other conferences are held in the Wallace Conference Room, Multnomah Pavilion, 5th floor, Room 5502 except for Cardiology Grand Rounds, which is usually held in the Sam Jackson Hall, Room 4248. You are strongly encouraged to attend the internal medicine conferences at 12 noon. The fellow will remind the team of the conference schedule daily. The schedule for core IM conferences and Cardiology conferences are as follows:

Monday	Tuesday	Wednesday	Thursday	Friday
		7:30-8:30 am Electrophysiology and Device Conference	7-8 am Cardiac Catheterization Conference	7-8 am Integrative Physiology Conference
	8-9 am Medicine Grand Rounds		**8-9** **CT Surgery Conference**	
12-1 pm Medicine Noon Report	12-1 pm Medicine Noon Conference	12-1 pm Medicine Noon Report	12-1 pm Medicine Noon Conference	12-1 pm Medicine Noon Conference
12-1 pm EP Didactic Conference	12-1 pm Multidisciplinary conference	12-1 General Cardiology Didactic Conference	12-1 pm Cardiology Research Conference	12-1 pm Imaging Conference
			1:15-2:15 pm Medicine Resident Report	1:15-2:15 pm Medicine Intern Report
			5-6 pm Cardiology Grand Rounds	

Educational Goals

The Cardiology consult service is an opportunity for residents to increase their skill in evaluating patients with cardiology problems. We hope you will refine your skills in obtaining and evaluating a cardiac history, physical exam, ECG, chest x-ray and exercise test. The indication for and integration of results from echocardiograms, radionuclide studies and cardiac catheterization will be introduced. In addition, we expect to improve your skills in managing patients with cardiac disease, refine techniques of analysis, integration and communication. Teaching on the cardiology consult service is patient centered and occurs during rounds while cases are presented and at the bedside.

We expect you will learn much more than what is outlined in the following objectives but this is to help give you a goal of what you MUST learn during your time with us. Please discuss these objectives with your fellow and attending and seek out relevant learning opportunities.

1. Differentiate between noncardiac chest pain, atypical chest pain, and angina chest pain
2. Identify pathologic ST depression on ECGs
3. Describe management of type 1 and type 2 NSTEMI
4. Describe management of atrial fibrillation or atrial flutter with rapid ventricular rate
5. Describe the management of severe aortic stenosis and severe aortic regurgitation
6. Describe the management of severe mitral stenosis and severe mitral regurgitation
7. Determine pre-operative cardiovascular risks for non-cardiac surgery and management pre- and post-surgery
8. List the indications, relative contraindications, contraindications for right heart catheterization
9. Interpret basic right heart catheterization tracings
10. List the indications, relative contraindications, contraindications for coronary angiography

Finally, attached below is the reprint from Medical Consultation (Gross and Kammerer, eds., Williams and Wilkins, 1990). Although directed toward a general medicine consult service, the principles discussed and recommendations are important and equally applicable to our service. They include:

1. The core element of a cardiology consultation.
2. The process that creates the consultation.
3. The most important part of the note.
4. The appropriate number of recommendations.
5. How to evaluate the quality of a consult

Expectations

1. Perform the assigned consultation with assistance from the fellow, who will triage the consults among team members
2. Present cases on rounds
3. Communicate recommendations with the requesting team
4. Write the initial and follow-up consult notes and identify the fellow as a co-signer
5. For follow-up consults, pre-round on the patient and discuss management plans with fellow before rounds
6. Participate in the education of medical students if they are on-service

7. Interpret and review the 25 ECGs with the fellow or attending during the rotation. The ECGs are attached at the end of this document.

Organization of the Rotation

The VA Inpatient Cardiology Consult Service team members consist of an Attending Cardiologist, a Cardiology Fellow, internal medicine and anesthesia residents, and medical students.

If there are 3 residents on the service and not enough general cardiology learning opportunities for all 3 residents, 1 resident can elect to work with the EP attending to see inpatient EP consults and work with mid-level practitioners to learn about device interrogation and post-procedure care.

Types of Consult Patients

Inpatients from medicine and surgical ward services, surgical ICU patients, PACU, patients with outpatient high risk stress test results that warrant admission and inpatient evaluation, and patients from general cardiology and heart clinics admitted for management of cardiovascular conditions.

Goals and Objectives of the Consult Rotation

1) To be available for inpatient consultations 24 hours a day 7 days a week
2) To provide education and training of cardiology fellows in the recognition, evaluation and management of inpatient cardiovascular problems for which cardiology expertise is needed.
3) To provide education on cardiovascular topics to residents rotating on the service.
4) To provide education on cardiovascular topics to medical students rotating on the service.

A consultation should include a brief summary of the history and hospital course. A complete cardiac evaluation should be obtained and included in the note. Other problems should be identified but generally do not need to be discussed. The greatest emphasis should be placed on the consultant's impressions and recommendations including a brief discussion of how the conclusions were reached and reasons for recommendations. The discussions, impressions and recommendations should specifically address the central question asked by the requesting physician as well as the more general cardiac assessment. The best notes summarize the key findings with evidence of review and critical analysis of the findings, integration of the analysis with a clear summary of the etiology of the heart disease, clinical status of the patient, and thinking of the consultant with specific recommendations. The importance of a clear note that effectively communicates the consultant's analysis and interpretation cannot be over stated. When the patient has been seen by the staff cardiologist on consultation rounds, a separate note should be made by the staff cardiologist. As we do not write orders for patients on other services, it is very important that contact between the resident staff on the requesting service and the consultation staff be assured. For most patients this can be handled by the notes in the progress section of the chart. For items of special importance however, it is imperative that the consulting medical student/resident talk with the resident responsible for the patient. Although this is sometimes difficult and frustrating, especially when the requesting resident is in the operating room for long periods, it is not less important. Occasionally, we can facilitate patient care by writing orders or requesting additional testing but only with the explicit permission of the primary service.

Consultation Rounds

Rounding Location: **Room 4C-132**

With rare exceptions, consultations should be completed and staffed on the day requested. This is important as many of the consultations are to evaluate patients who will go to the operating room the following day or who have returned from the operating room with a cardiac question or problem.

The staff cardiologist (or cardiology fellow) will round with the consulting resident and medical student daily, Monday through Friday. Rounds are generally held in the morning as well as the afternoon, but patients can be seen at any hour if the medical situation requires it. As the timing of rounds may vary from day to day, it is worth checking with the staff cardiologist early each day to make plans for rounds. The fellow will triage and assign consults to team members as they are requested.

After 5 pm during weekdays, urgent and emergent consults are performed by the on-call fellow and staffed with the on-call cardiology attending. The on-call fellow will notify the consult fellow and consult attending at the time the consult is performed or the following morning via verbal communication or added as a co-signer in CPRS. The on-call staff cardiologist rounds in the CCU and consult service on Saturday, Sunday, and holidays with the on-call fellow and/or resident.

At times of weekend coverage or rotation change of consult service members, effective sign-out with the covering or new team is very important and can be accomplished verbally, on hard copy, or within VA encrypted email with functional PKI. Emailing sign-out patient information between the VA and OHSU email servers is strictly prohibited as is using OHSU email to communicate information about VA patients. Do not include any patient identifying information or specific details about patient's condition, location, etc. in text messages.

Important Elements of a Cardiovascular Consult Presentation

1. State the consulting team and the consult question
2. Outline all relevant cardiovascular risk factors and cardiovascular past medical history including most recent echo, stress test, cath, etc. early during the history of present illness
3. Pertinent past medical history
4. Pertinent family history
5. Pertinent social history
6. Allergies and current medications
7. Physical Exam: General Multi system Examination with complete exam of cardiovascular system
8. Current lab data and relevant cardiology tests
9. Impression
10. Recommendations

***** This is very important! *****

Medical Records Documentation Guidelines

Every inpatient consult note **MUST** begin with a change of location to **INPATIENT CARDIO** **before** you start your note. This must be done before each initial and the follow-up consult note. This will permit the VA administration to track workload.

NEW CONSULTS

Note Title: Inpat Cards Initial

Encounter: 1. Select INPT—CONSULTATIONS

2. Fill out type of visit (problem focus→ comprehensive, High)

3. If item bolded, select whether visit is service connected or related to the item
4. Designate the Cardiology Consult Attending as the Primary Provider
5. Fill out the diagnosis(es)

FOLLOW-UP CONSULTS

Note Title: Inpat Cards Followup

Encounter:
1. Select INPT BEDSIDE VISITS-DAILY VISITS
2. Fill out type of visit (problem focus→ comprehensive, High)
3. If item bolded, select whether visit is service connected or related to the item
4. Designate the Cardiology Consult Attending as the Primary Provider
5. Fill out the diagnosis(es)

General

1. Documentation should be broad, supporting the intensity of patient evaluation, treatment, thought processes and the complexity of medical decision-making.
2. Patient's progress, response to and changes in treatment, change in diagnosis, and patient non-compliance should be documented.
3. Review of all investigations should be documented.
4. Impression should be documented.
5. The written recommendation plan should include:
    a. Treatment and medications; including frequency and dosage
    b. Patient/Family education
    c. Specific instructions for follow-up.

Important elements of a cardiovascular consultation note

1. The team and attending who requested the consult
2. The consult question
3. Chief Complaint
4. History of Present Illness (Location, quality, severity, duration, timing, context, modifying factors, associated signs/symptoms: 4 or more elements)
5. Review of Systems: Constitutional, Eyes, Ears, Nose, Throat, Mouth, Cardiovascular, Respiratory, GI, GU, Musculoskeletal, Integumentary, Neurological, Psychiatric, Endocrine, Heme and Lymphatic, Allergic/Immunologic (at least 10 systems)
6. Past Medical History
7. Family History
8. Social History
9. Allergies and current medications
10. Physical Exam: General Multi system Examination with complete exam of cardiovascular system
11. Data (labs, ECG, echo, ETT, nuclear stress tests, rhythm strips, Holter/event monitor, cath reports, and other pertinent imaging results
12. Impression
13. Recommendations
14. Patient and family education
15. REQUIRED Attestation
    - Management plans and recommendations were communicated with the consulting team
    - Resident supervision by Dr. Attending

16. MUST Add the PCP as a co-signer or order IFC to notify the PCP if not within Portland System

On-Call

Monday-Friday

The on-call cardiology fellow takes call between 5 pm and 8 am and will staff patients with the assigned on-call attending cardiologist or the consult attending the next morning.

Saturday/Sunday/Federal Holidays

The weekend call schedule is arranged by one of the Co-Chief Cardiology Fellows and is communicated with the resident in advance of the rotation. The resident is not on-call if the rotation is only for 1 week. Otherwise, the residents assigned to the OHSU Cardiology Service and the VA share weekend call. If the VA resident is on call, he/she will see new and follow-up consults only at the VA. New consults at the VA are triaged by the on-call fellow. There will be weekends where there are no residents working at the VA because the on-call resident has been on the OHSU consult service.

Teaching

Teaching on the cardiology consult service is patient centered and occurs during rounds while cases are presented and at the bedside. One or more topics pertinent to the patient being discussed are highlighted for teaching and this can involve teaching about the diagnostic algorithm to detailed management issues. At the patient's bedside, pertinent historical facts are pointed out and physical findings demonstrated. In addition, fellows are involved in interpretation of diagnostic cardiac imaging studies as these are reviewed with the attending. References for further reading are provided at the rounds.

When the service is not busy, the consult fellow or consult attending can review ECG, ETT, echo, or coronary angiography interpretation with the resident. The resident may also review echo interpretation with the echo attending. These additional learning opportunities will be arranged ad hoc dependent on the daily workflow.

Structured ECG tutorial

25 educational ECGs will be provided to the resident to review and discuss with the cardiology fellow and/or attending during the rotation. Please arrange with the fellow/attending specific times during the rotation for ECG teaching.

Educational Resources

OHSU IM Residency Program Educational Site - Cardiology Section for Key Articles
www.IMRESPDX.com

ECG in 10 days (author David Ferry)
http://www.amazon.com/gp/product/0071465626?ref%5F=sr%5F1%5F1&qid=1464201935&sr=8-1&keywords=ecg%20in%2010%20days&pldnSite=1 m

The Complete Guide to ECGs (author James O'Keefe)
http://www.amazon.com/gp/product/0763764051?ref%5F=sr%5F1%5F2&qid=1464201969&sr=8-2&keywords=O%27Keefe%20ecg&pldnSite=1

ACC/AHA Cardiology Guidelines
http://www.acc.org/guidelines#sort=%40foriginalz32xpostedz32xdate86069%20descending&f:@fdocumentz32xtype86069=[guidelines]

Echocardiography Guidelines
http://asecho.org/guidelines/

AHA/ACC/HFSA 2022 Guideline for the Management of Heart Failure
2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines (ahajournals.org)

Heart Rhythm Society Practice Guidelines
http://resources.hrsonline.org/provider.html

Syntax score to determine complexity of coronary artery disease
http://www.syntaxscore.com/

Online STS Adult Cardiac Surgery Risk Calculator
http://riskcalc.sts.org/stswebriskcalc/#/

Online EuroScore Adult Cardiac Surgery Risk Calculator
http://www.euroscore.org/calc.html

Online DAPT Risk calculator
http://tools.acc.org/DAPTriskapp/#!/content/calculator/

Online HEART Score for major Cardiac Events
https://www.mdcalc.com/heart-score-major-cardiac-events

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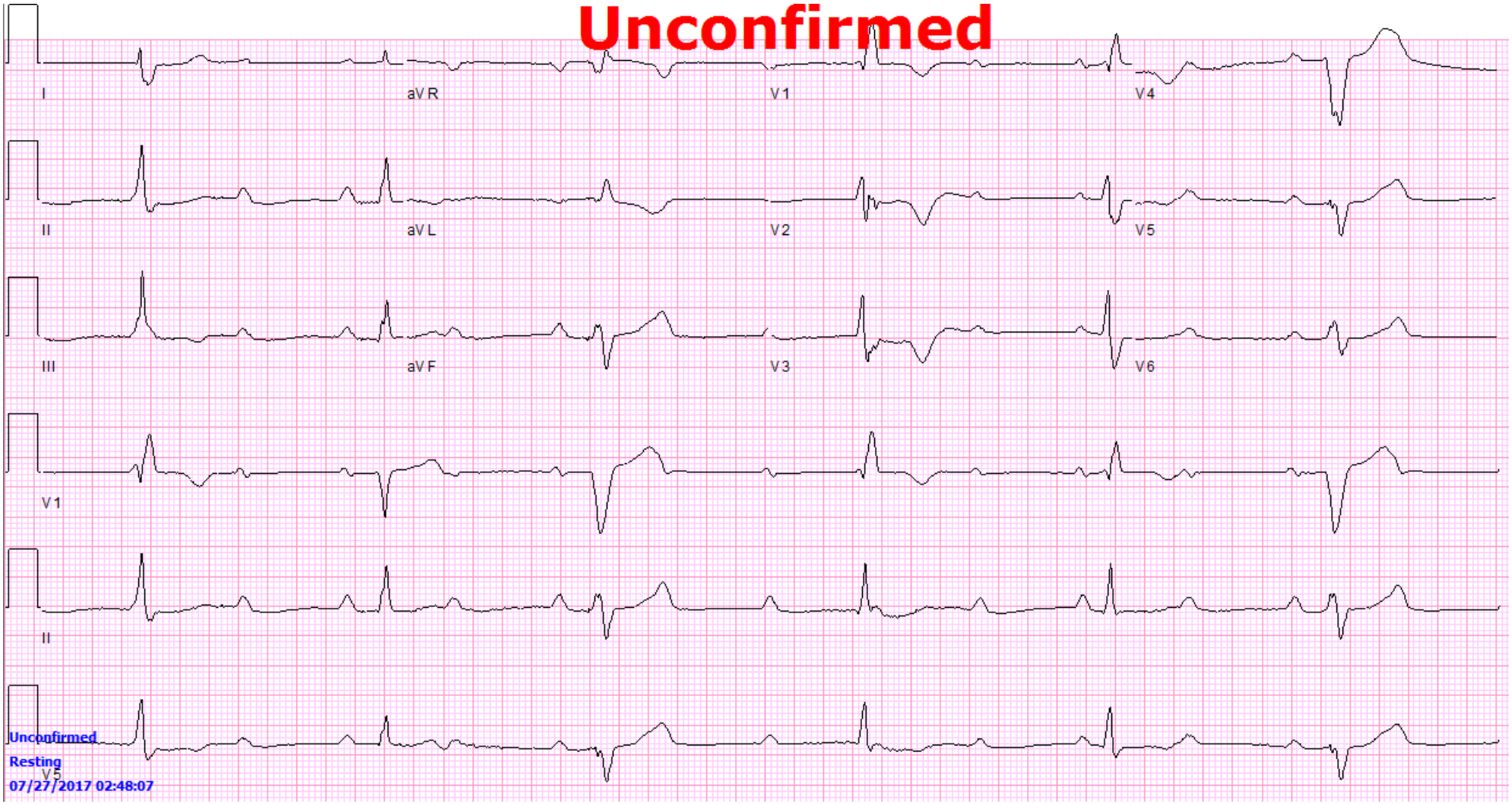
Questions, concerns, comments, and suggestions to improve the rotation and educational materials are always welcome and should be directed to your attending, your fellow, or Dr. D. Elizabeth Le at VA ext 5-2133, VA pager *41- 2147, OHSU page 16318, or email lee@oshu.edu

Updated 2023.04.23

ECG #1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I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
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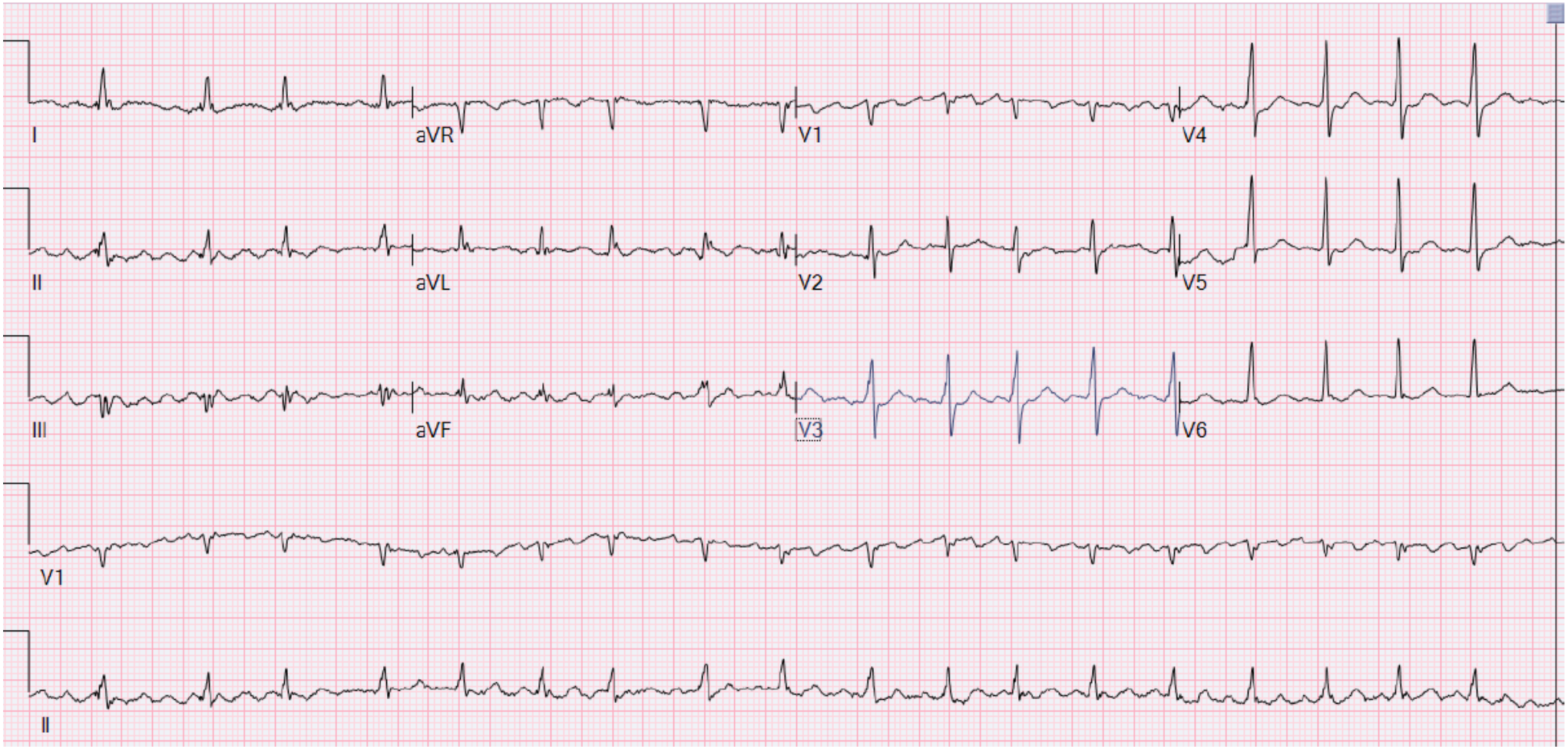

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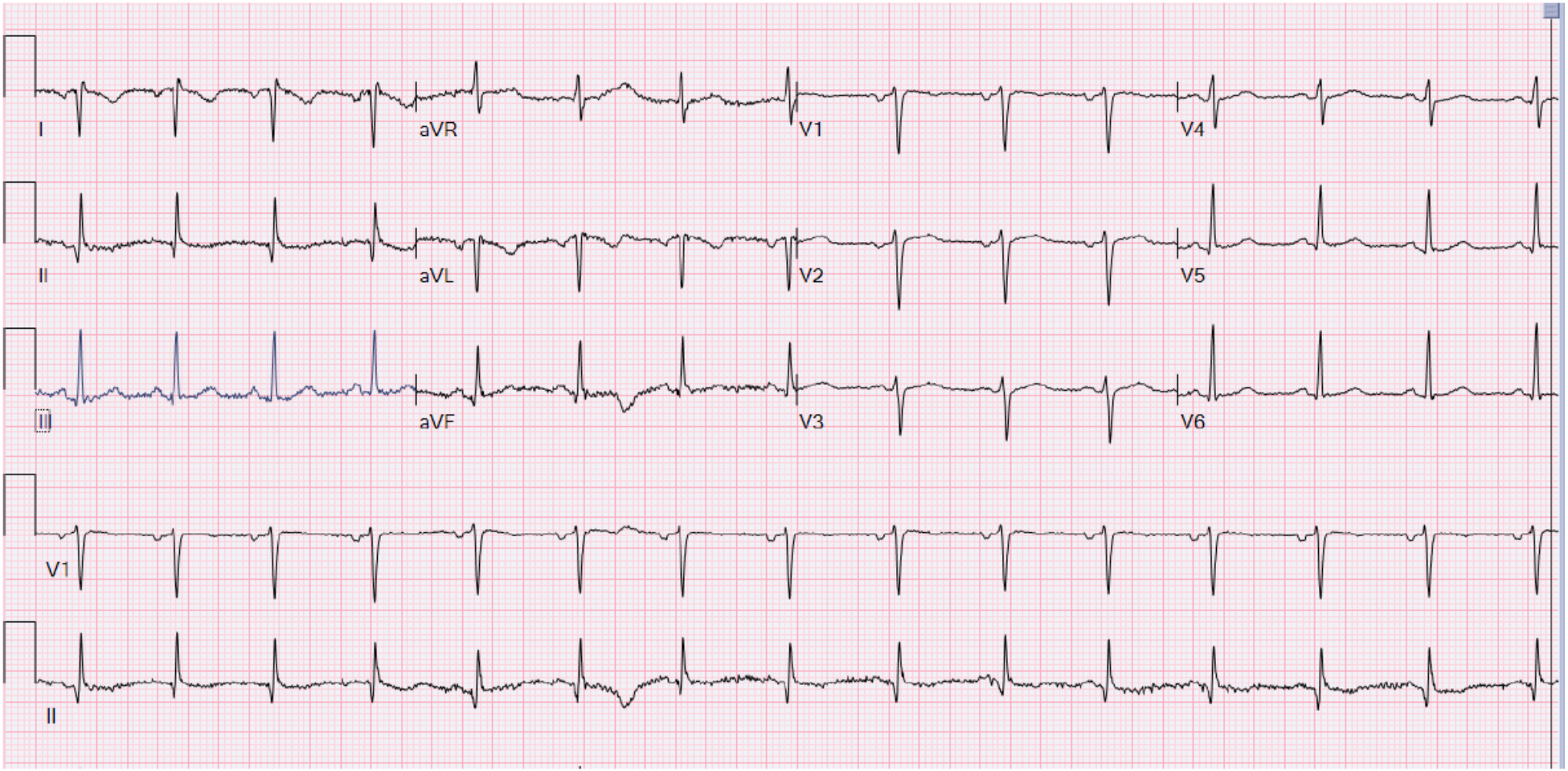

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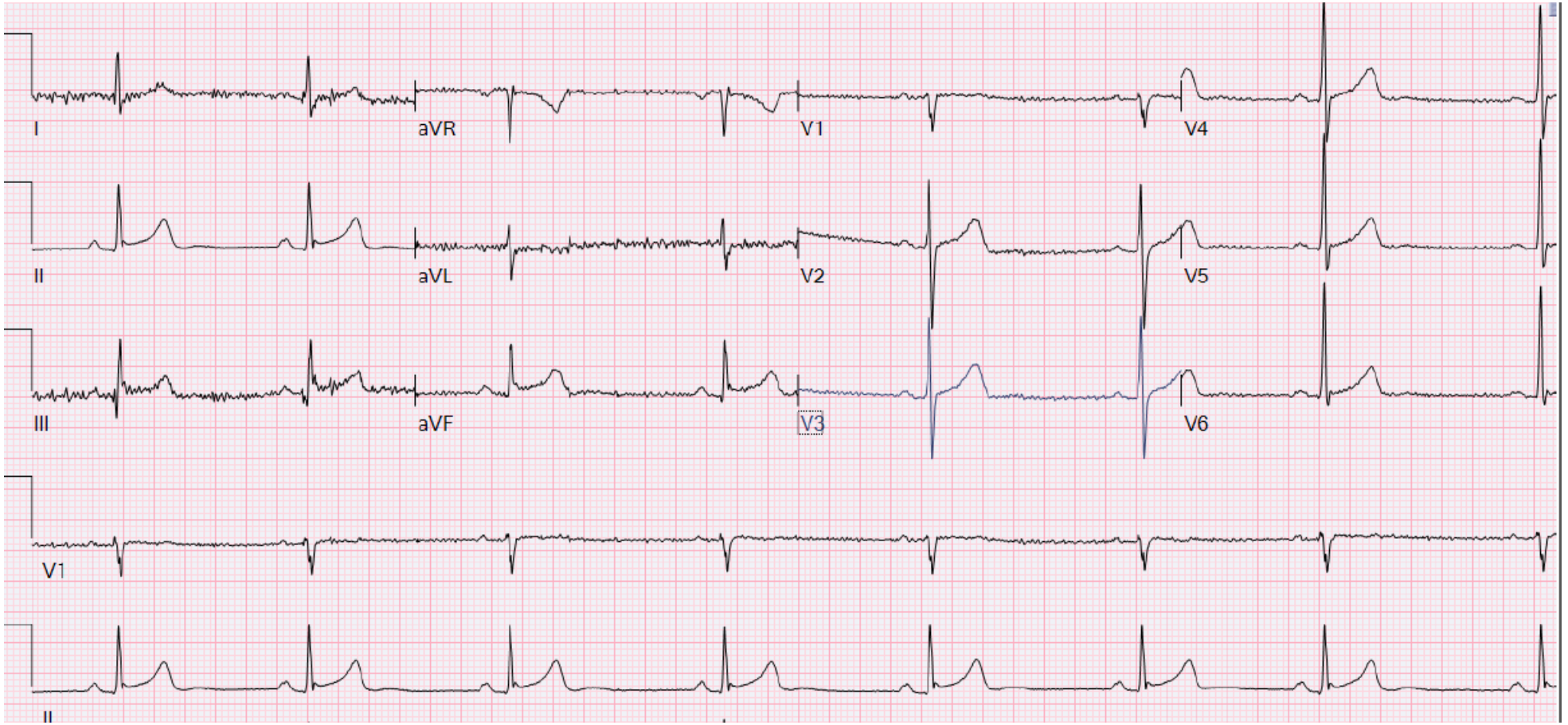

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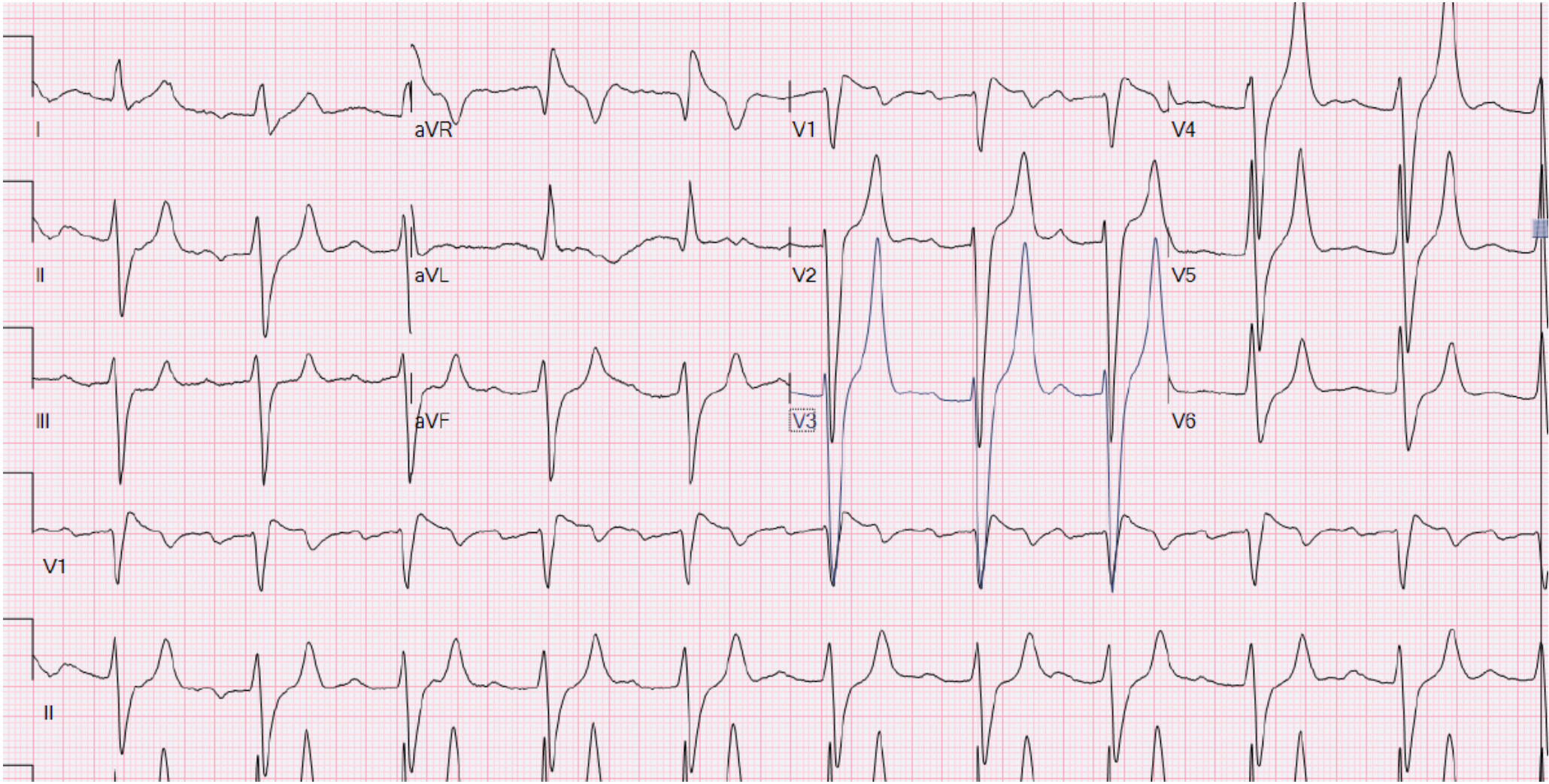

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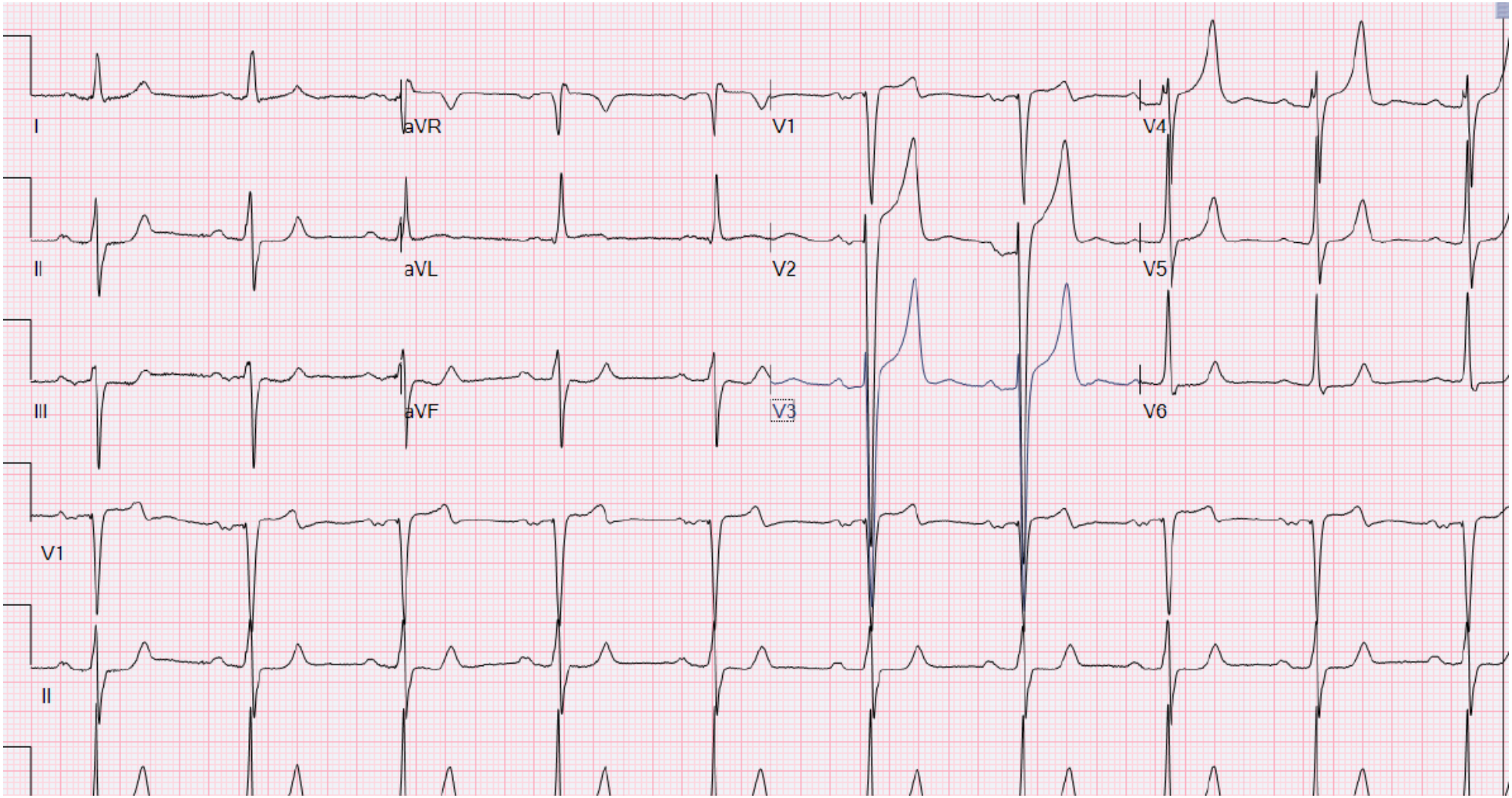

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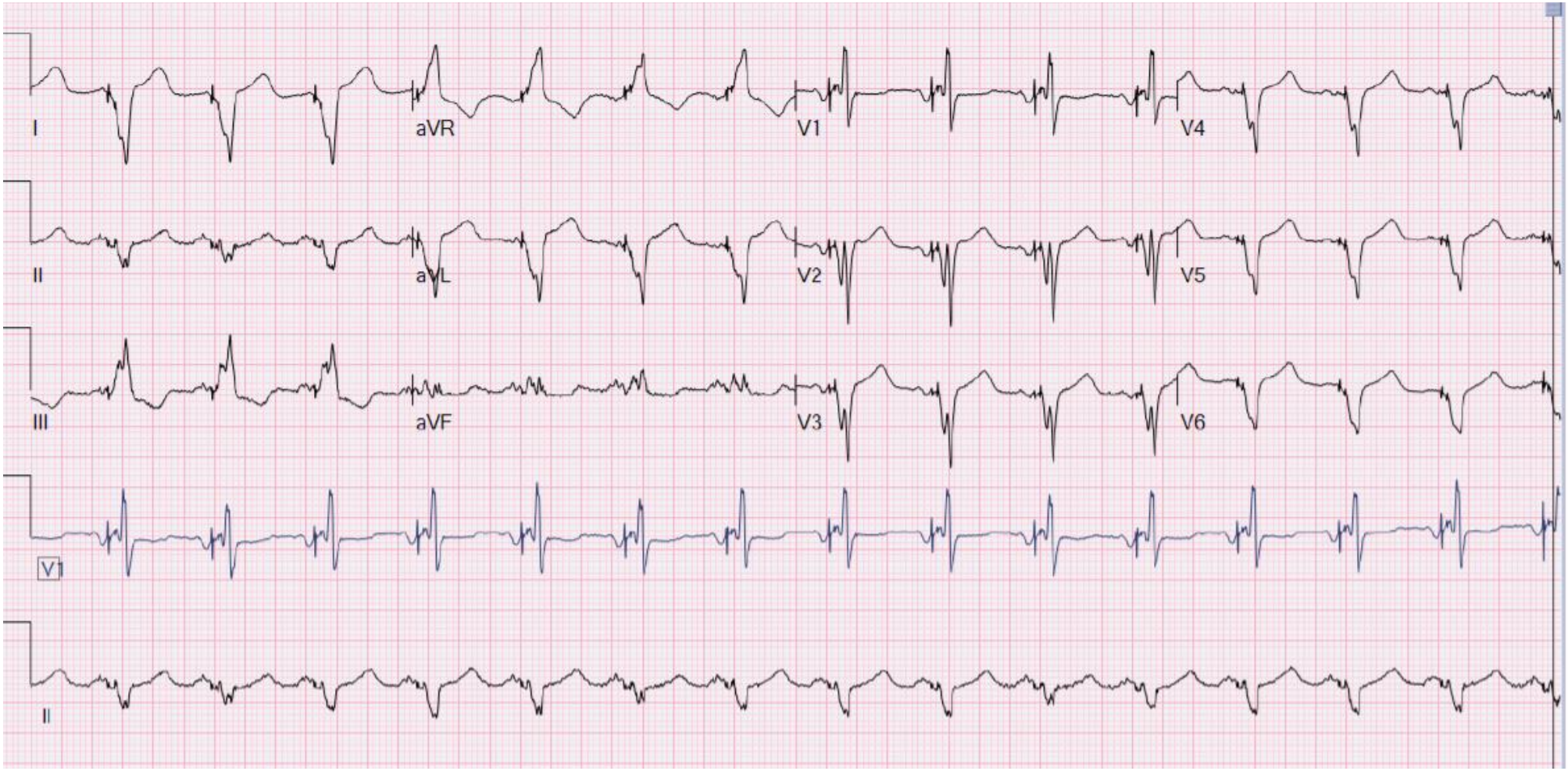
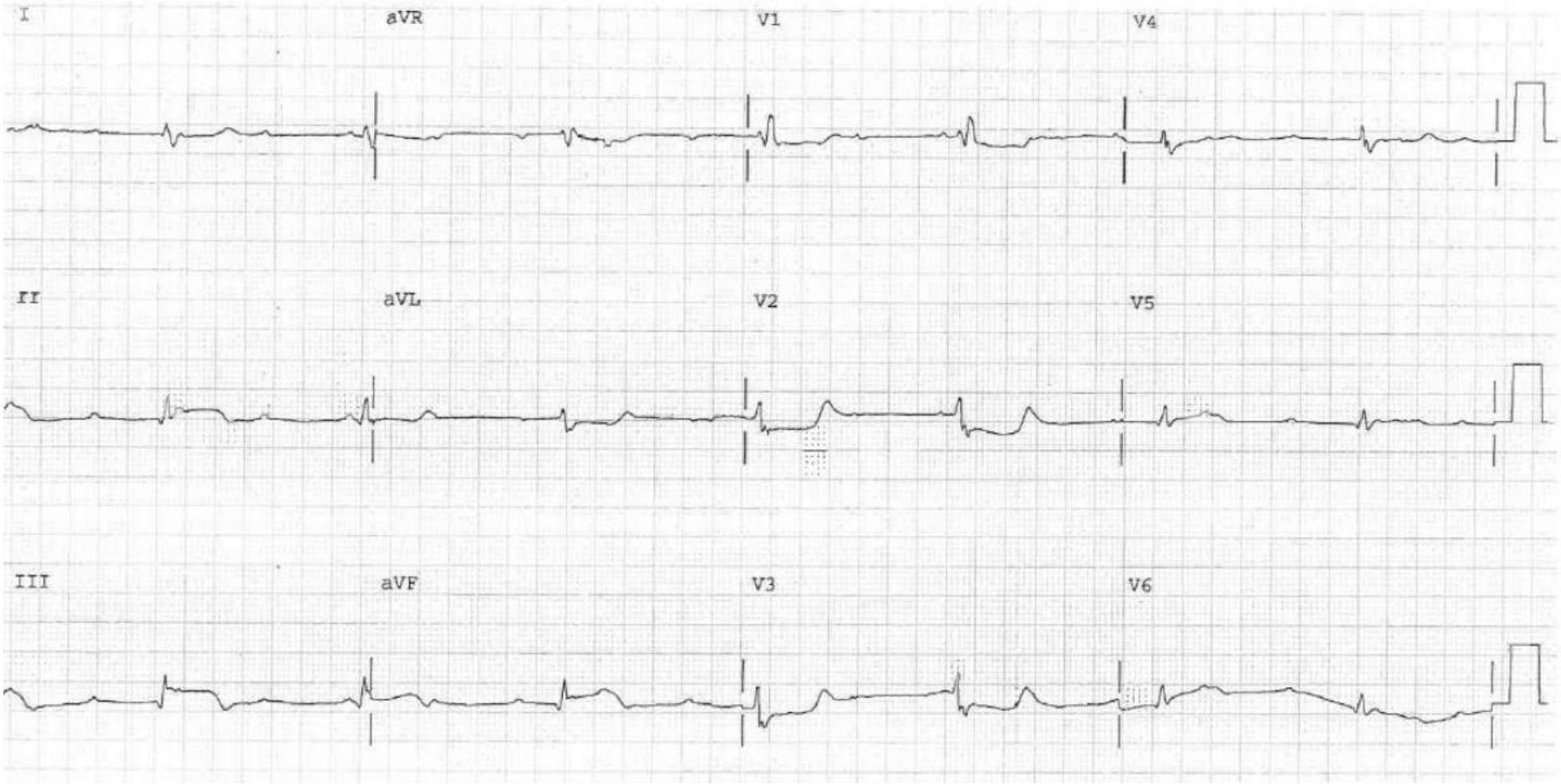
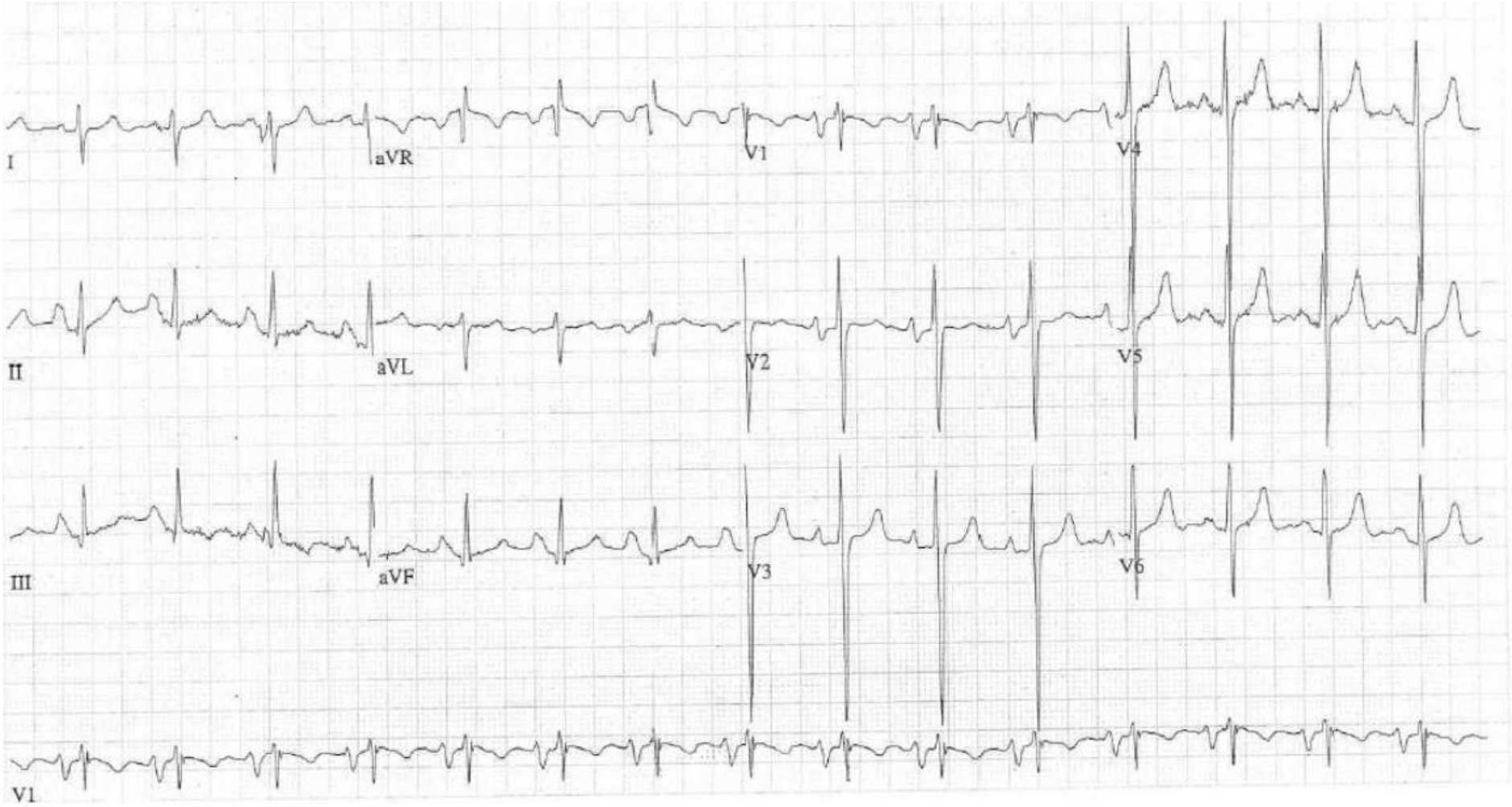


ECG #8
59 year-old man admitted to the CCU

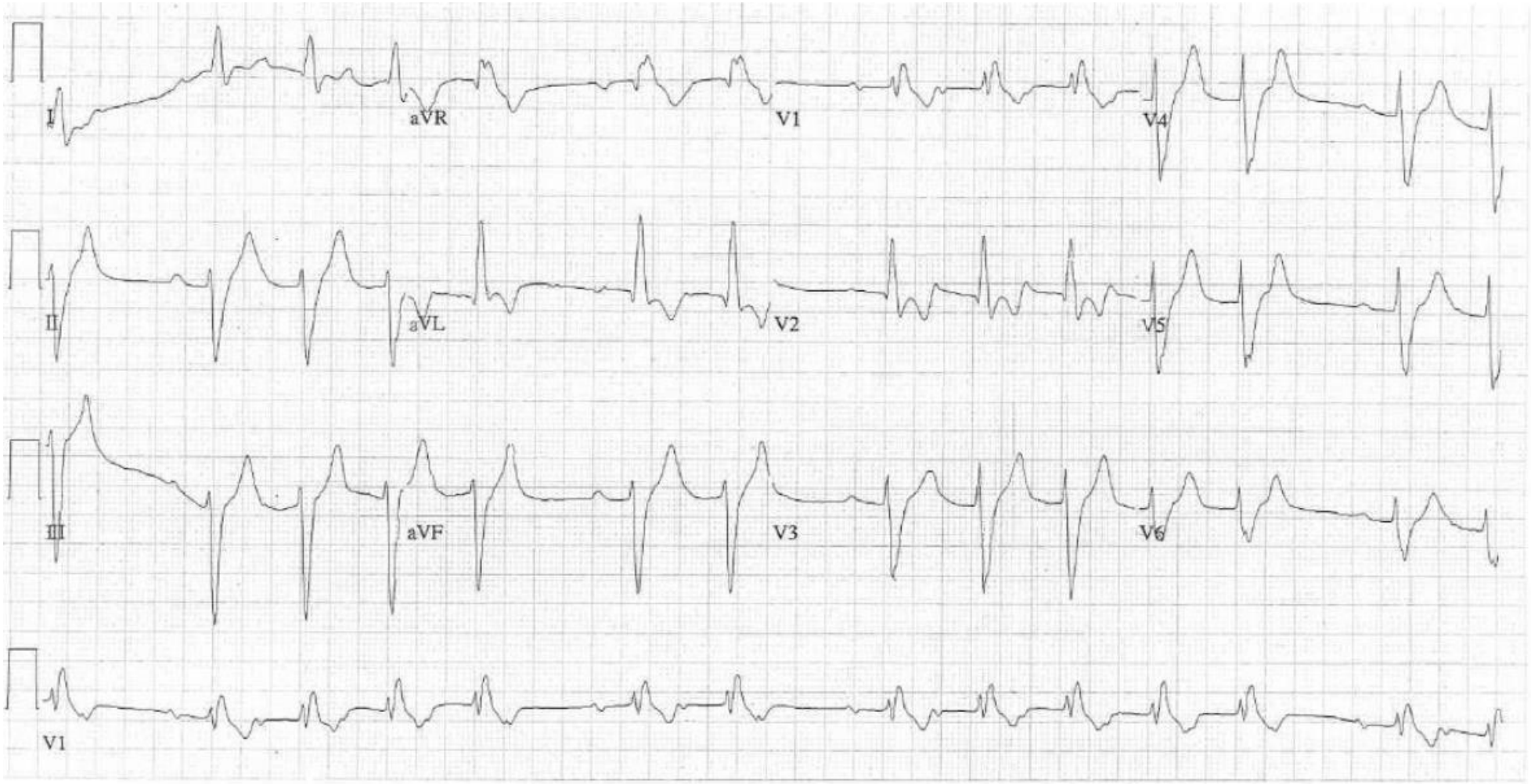


ECG #9
42 year-old woman with murmur



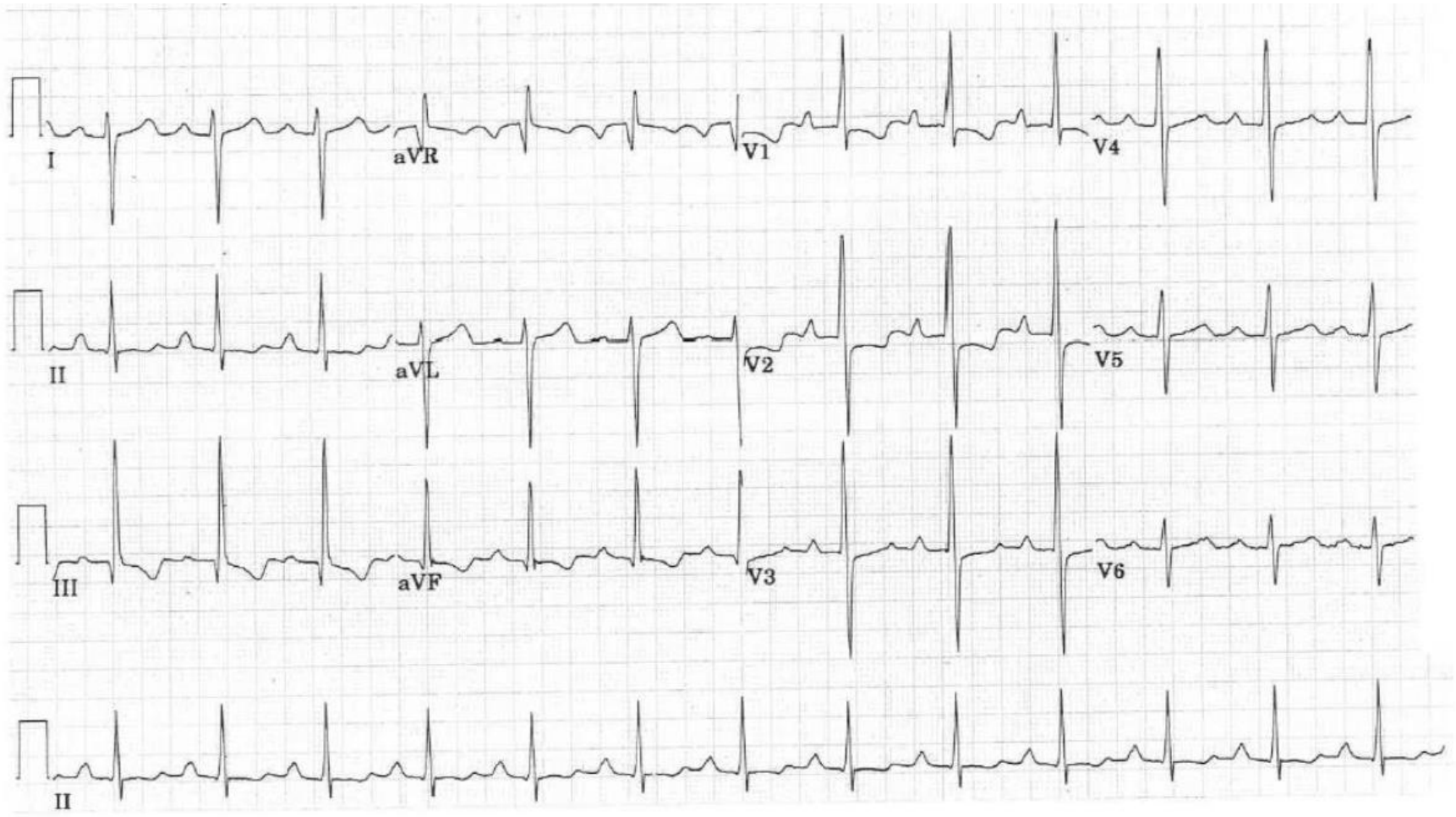
Updated 2023.04.23

ECG #10
48 year-old man with hypertension

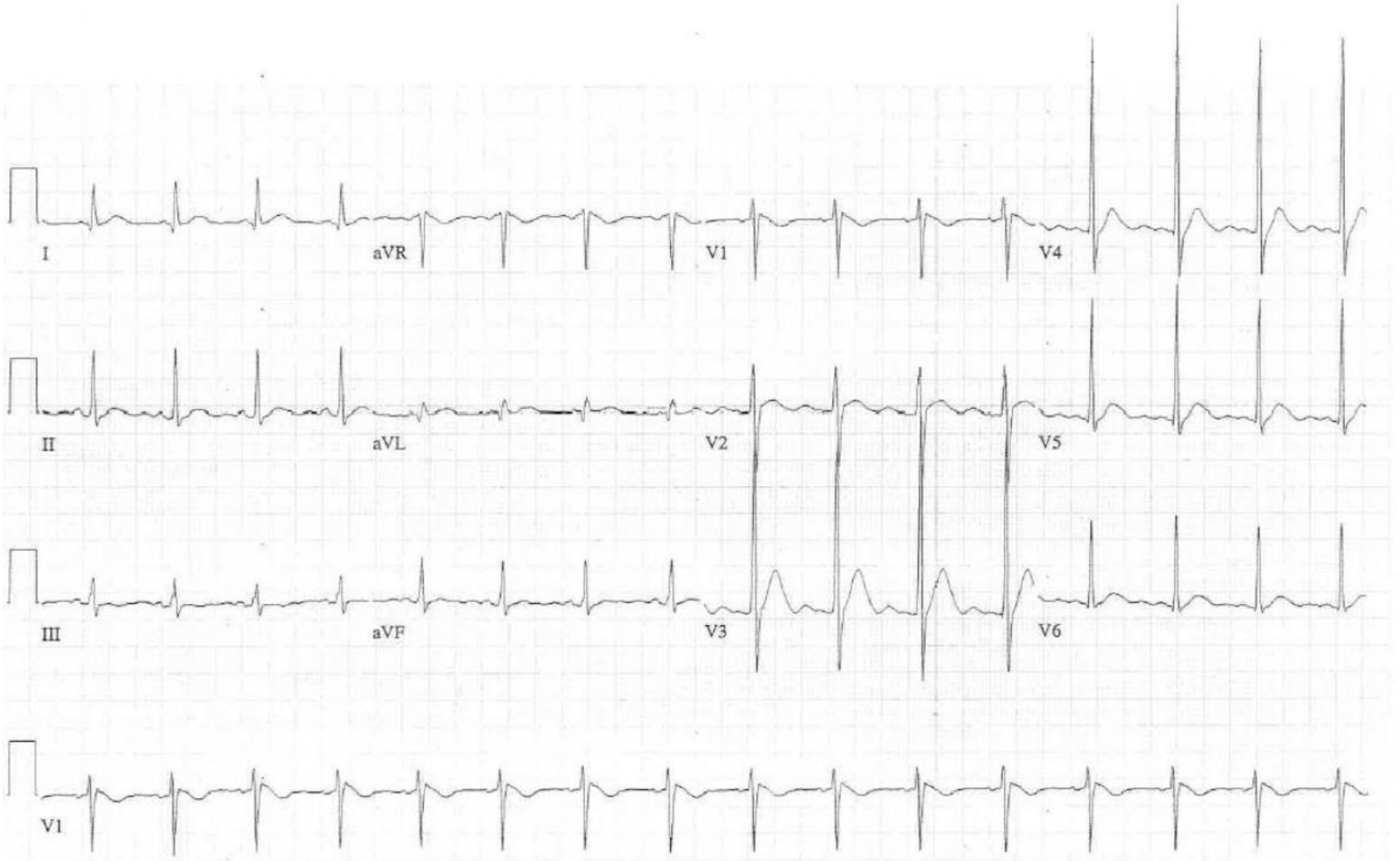


Updated 2023.04.23

ECG #11
27 year-old man with increasing shortness of breath



ECG #12
39 year-old woman with breast cancer



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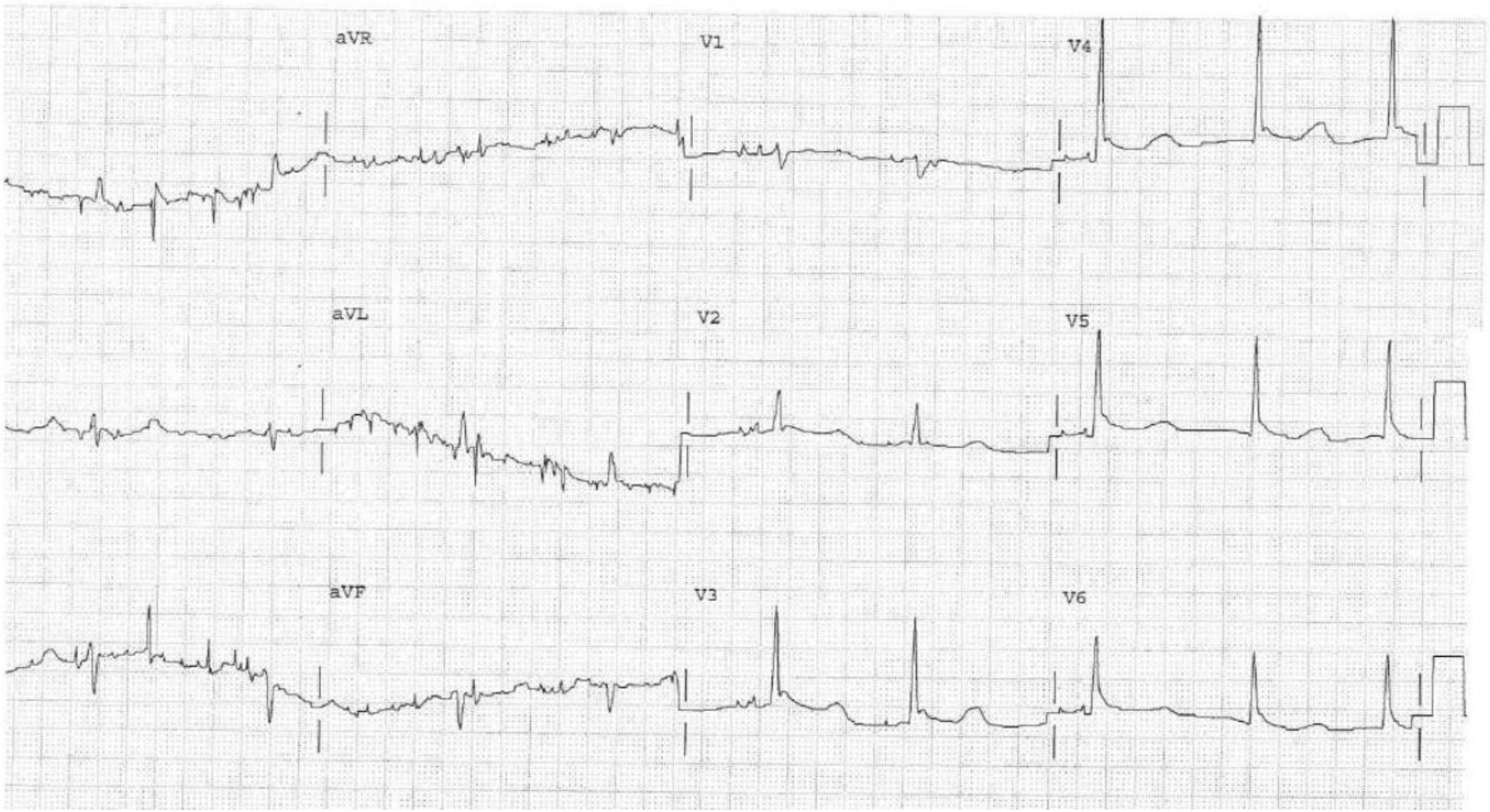
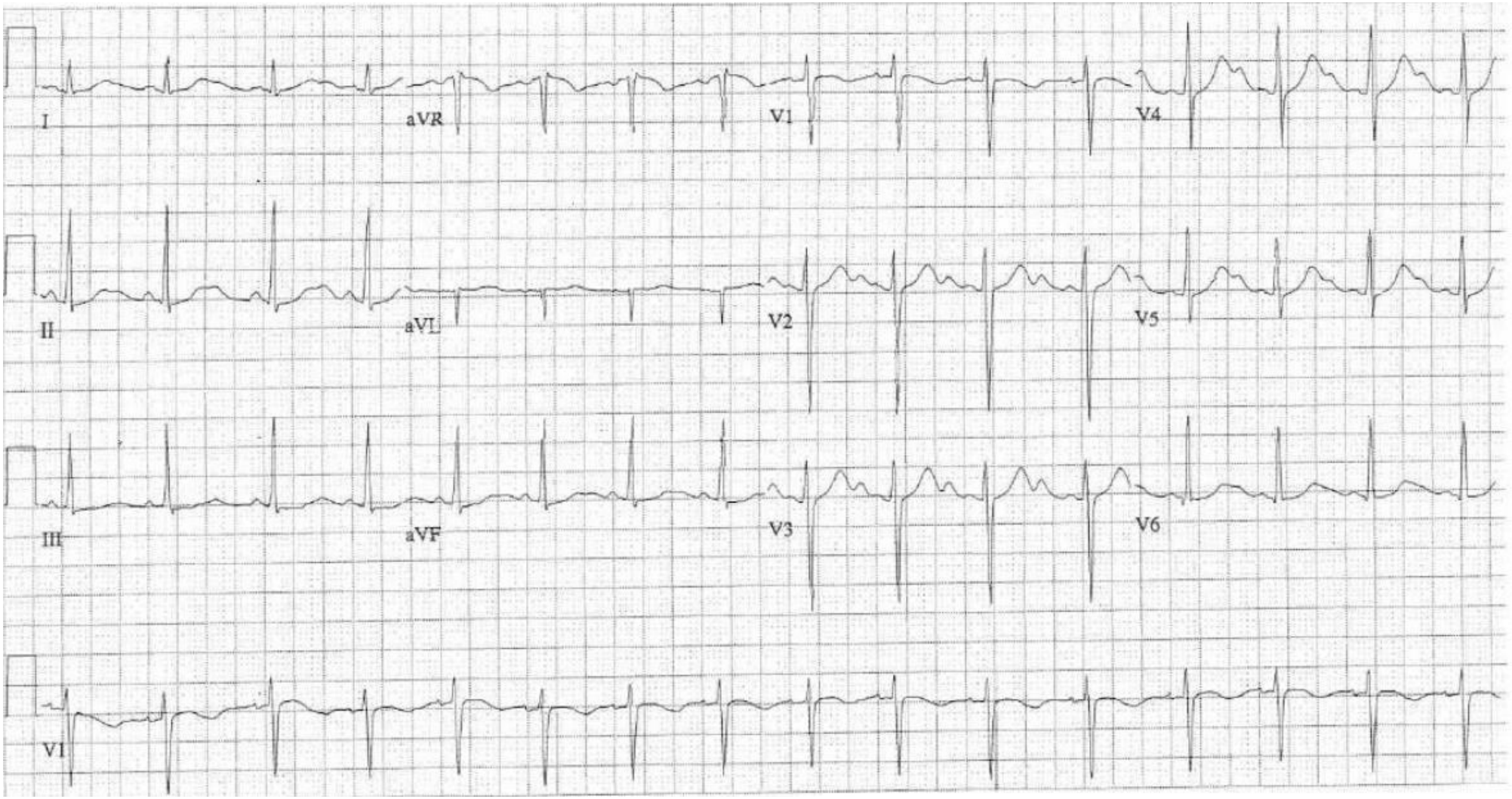
90 year-old unresponsive man



ECG #14
16 year-old woman with syncope



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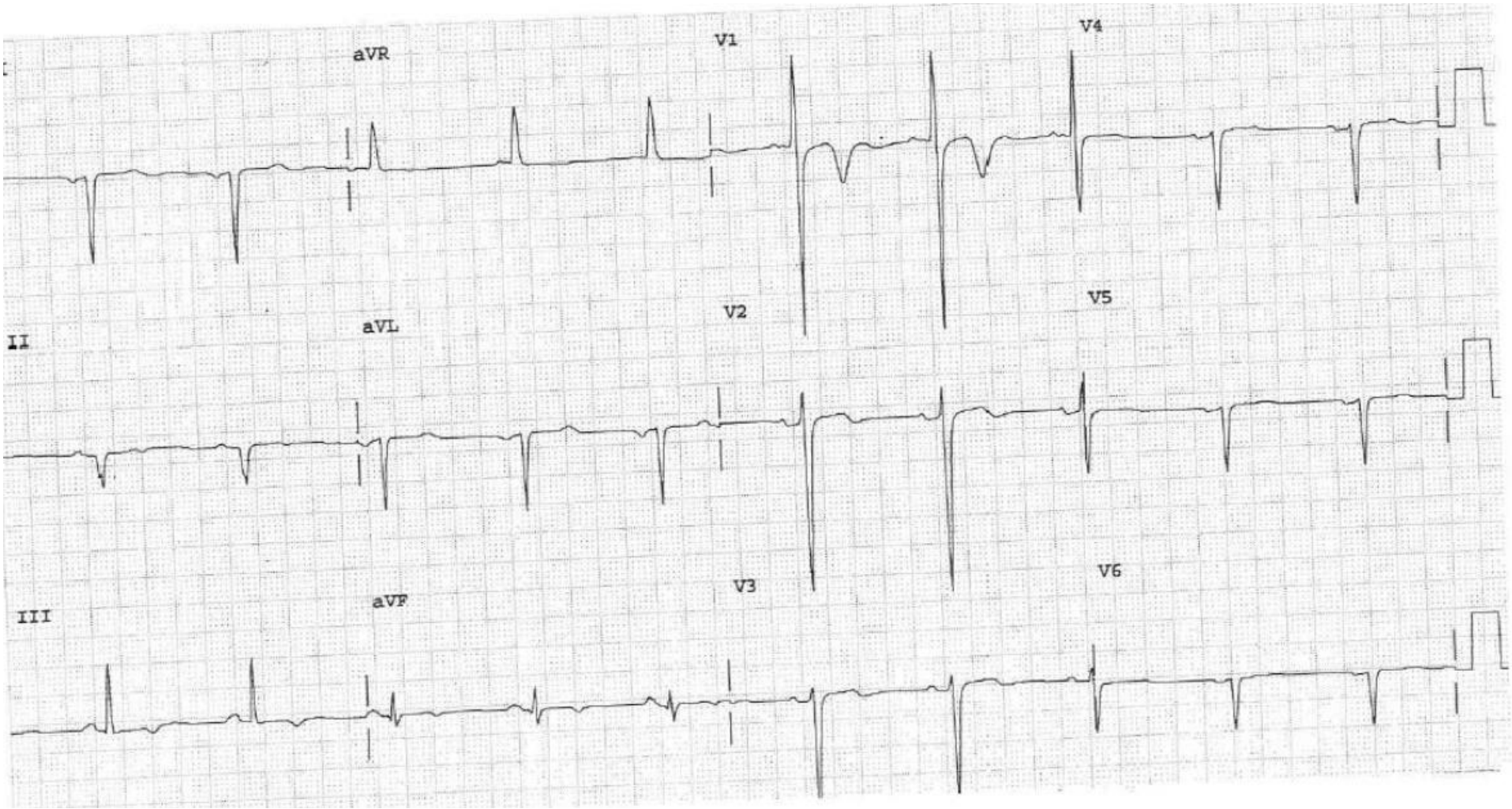

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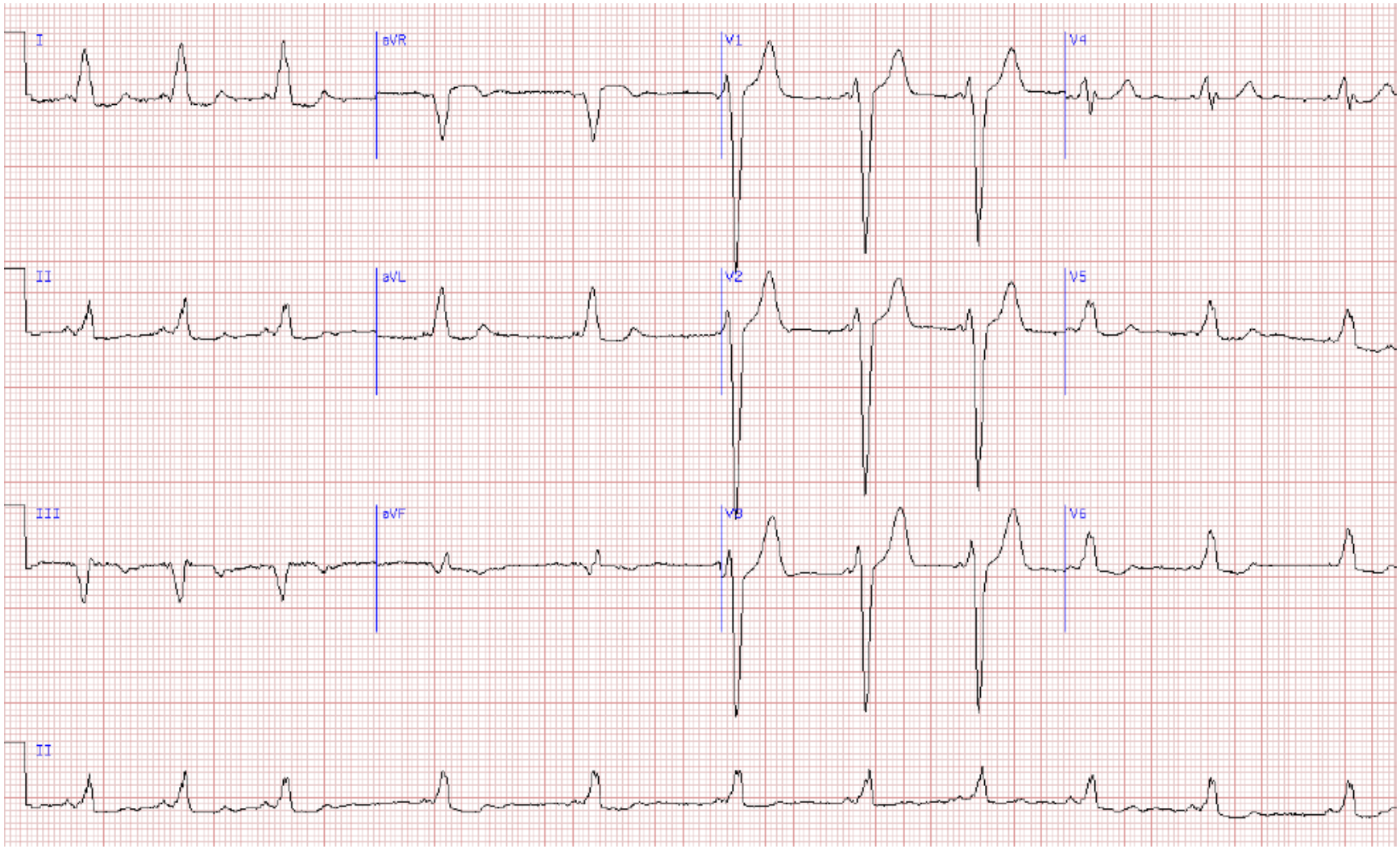

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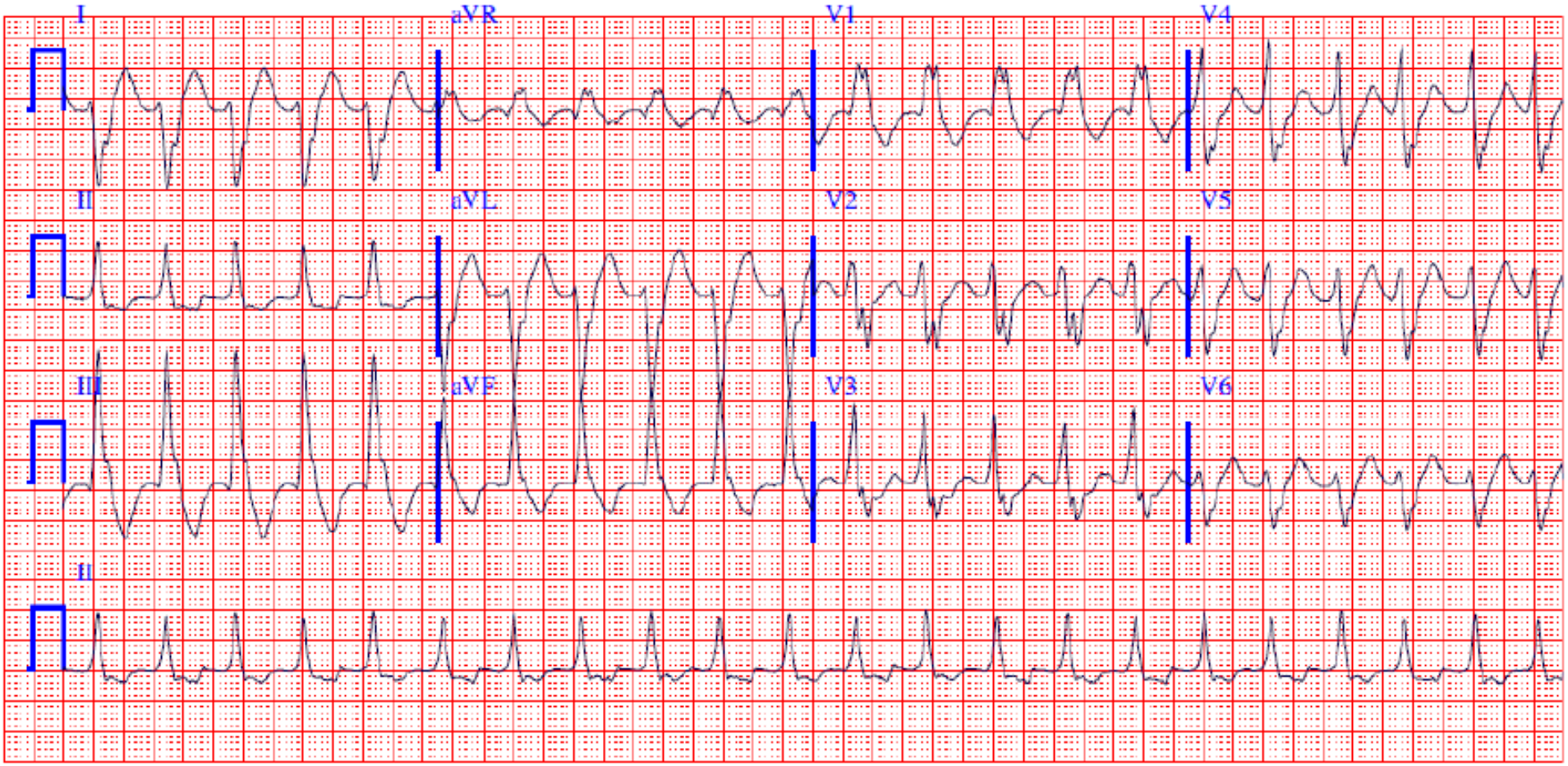
ECG #17



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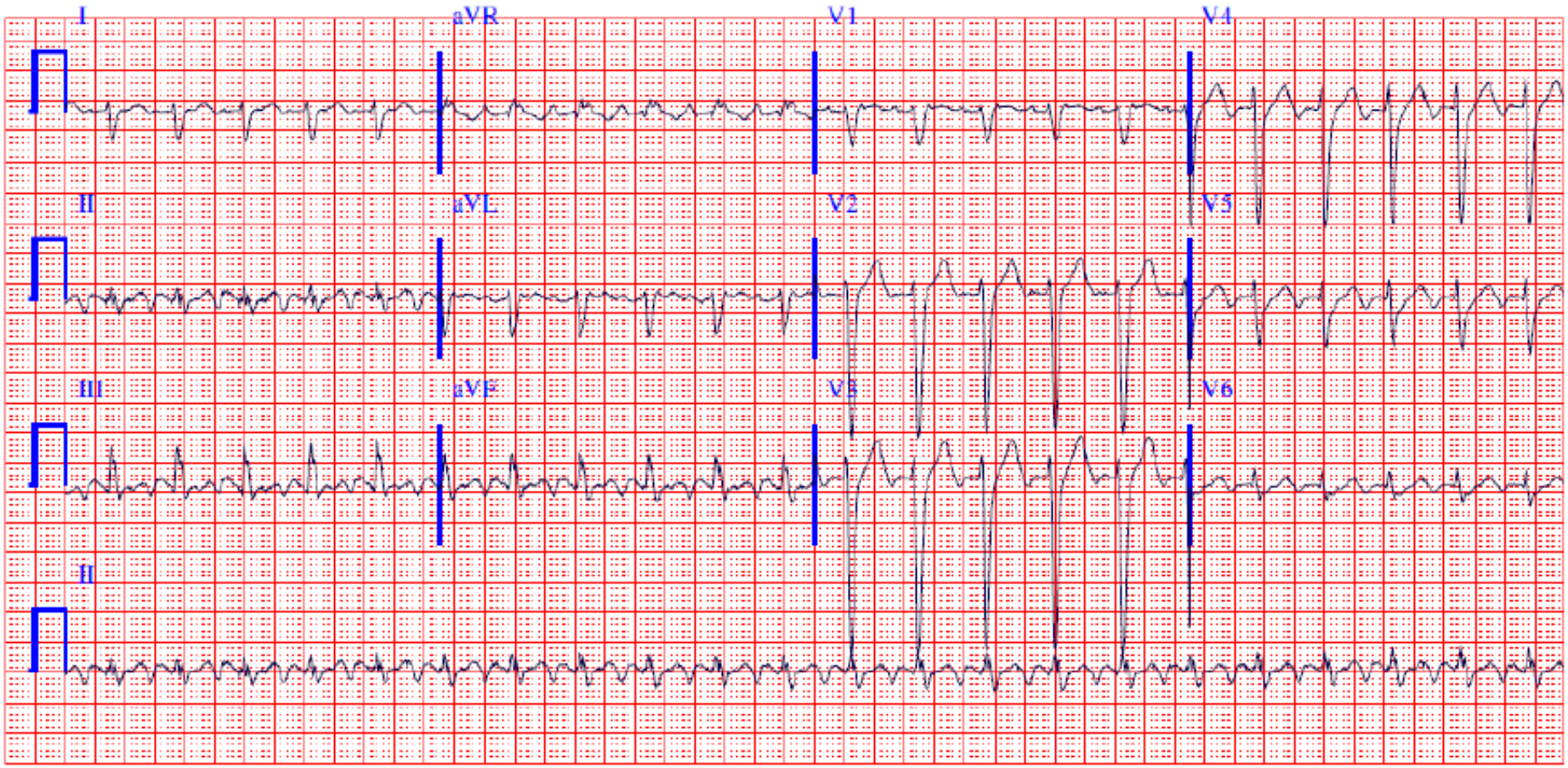

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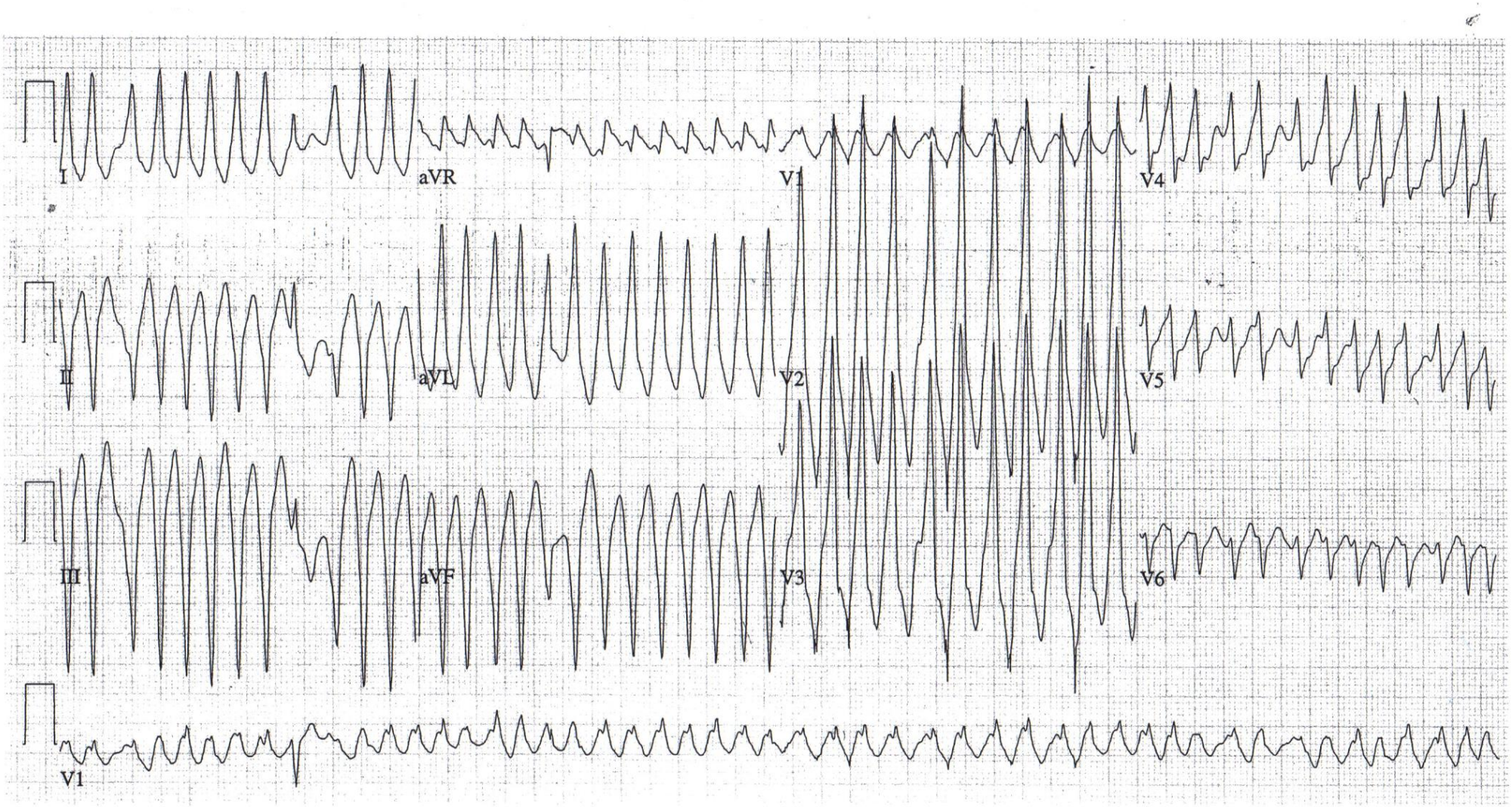

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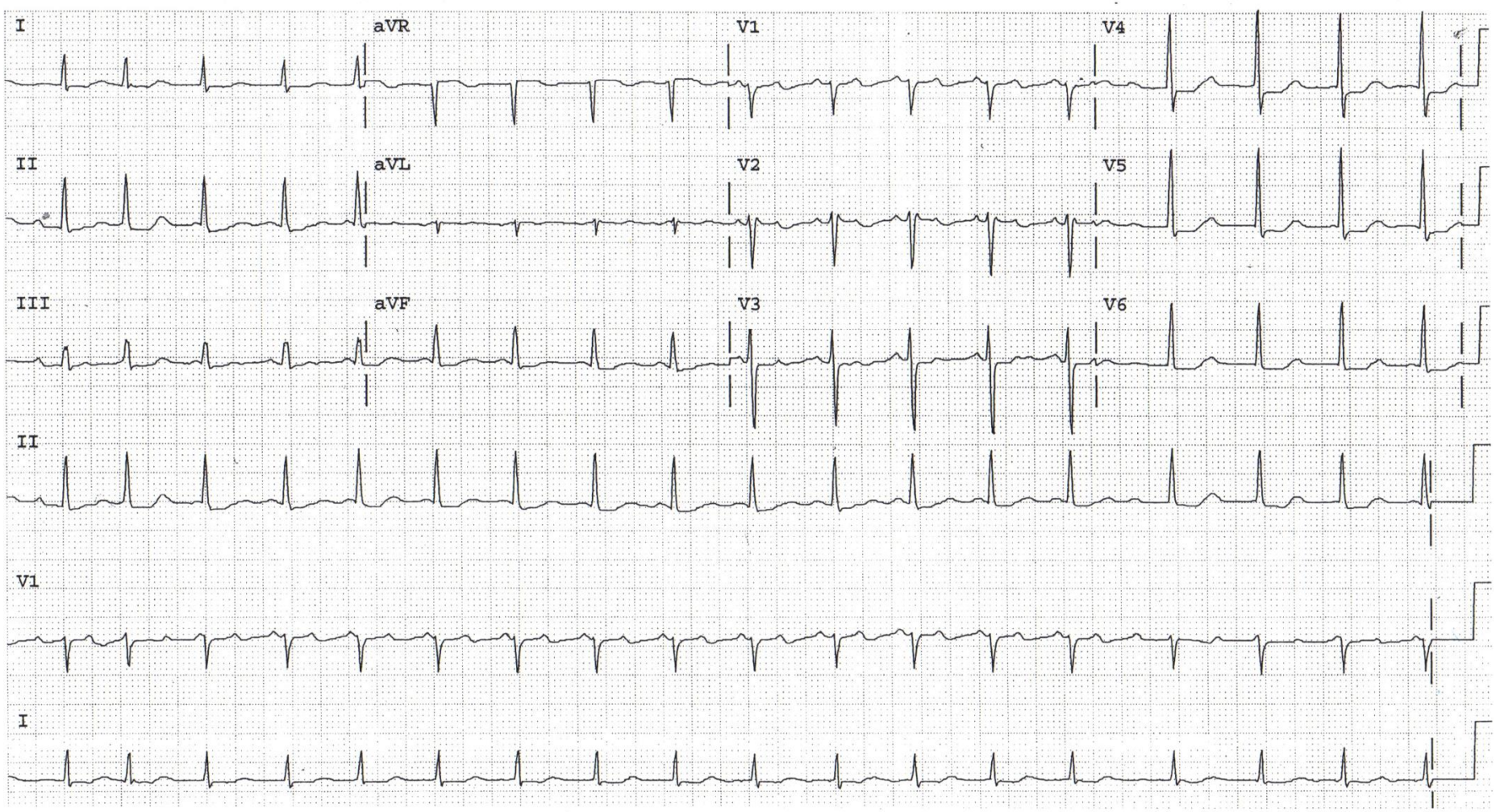

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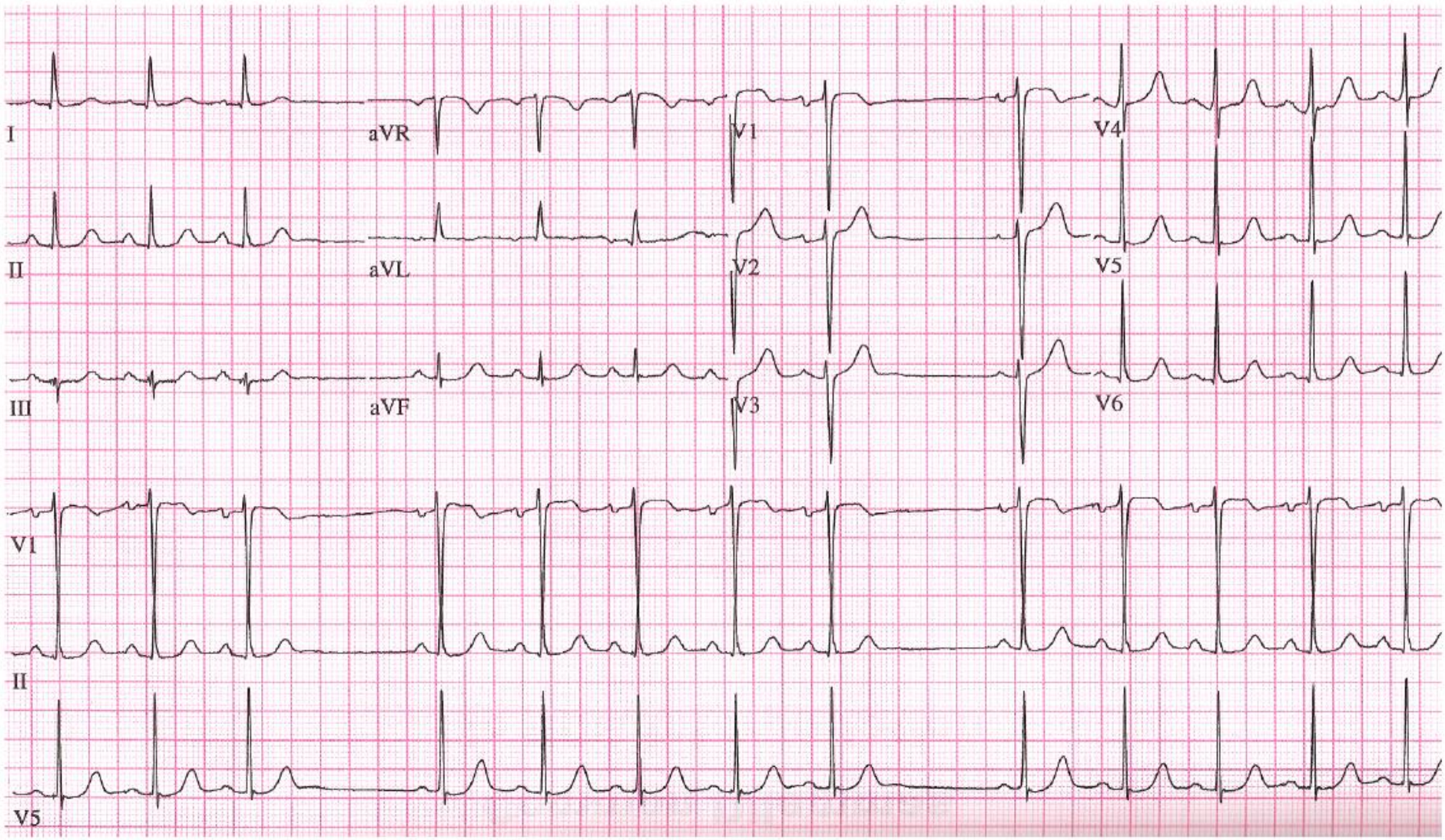

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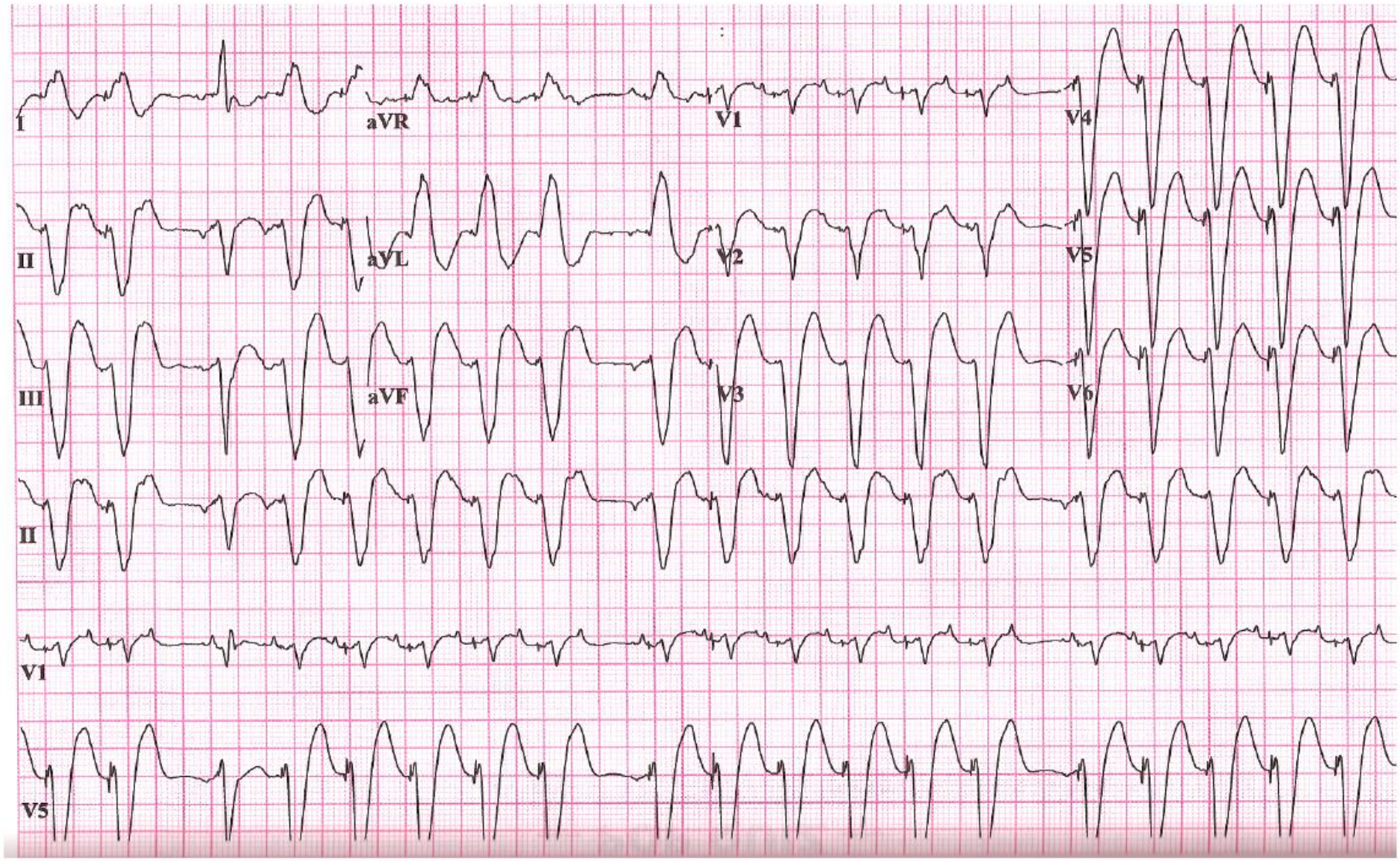
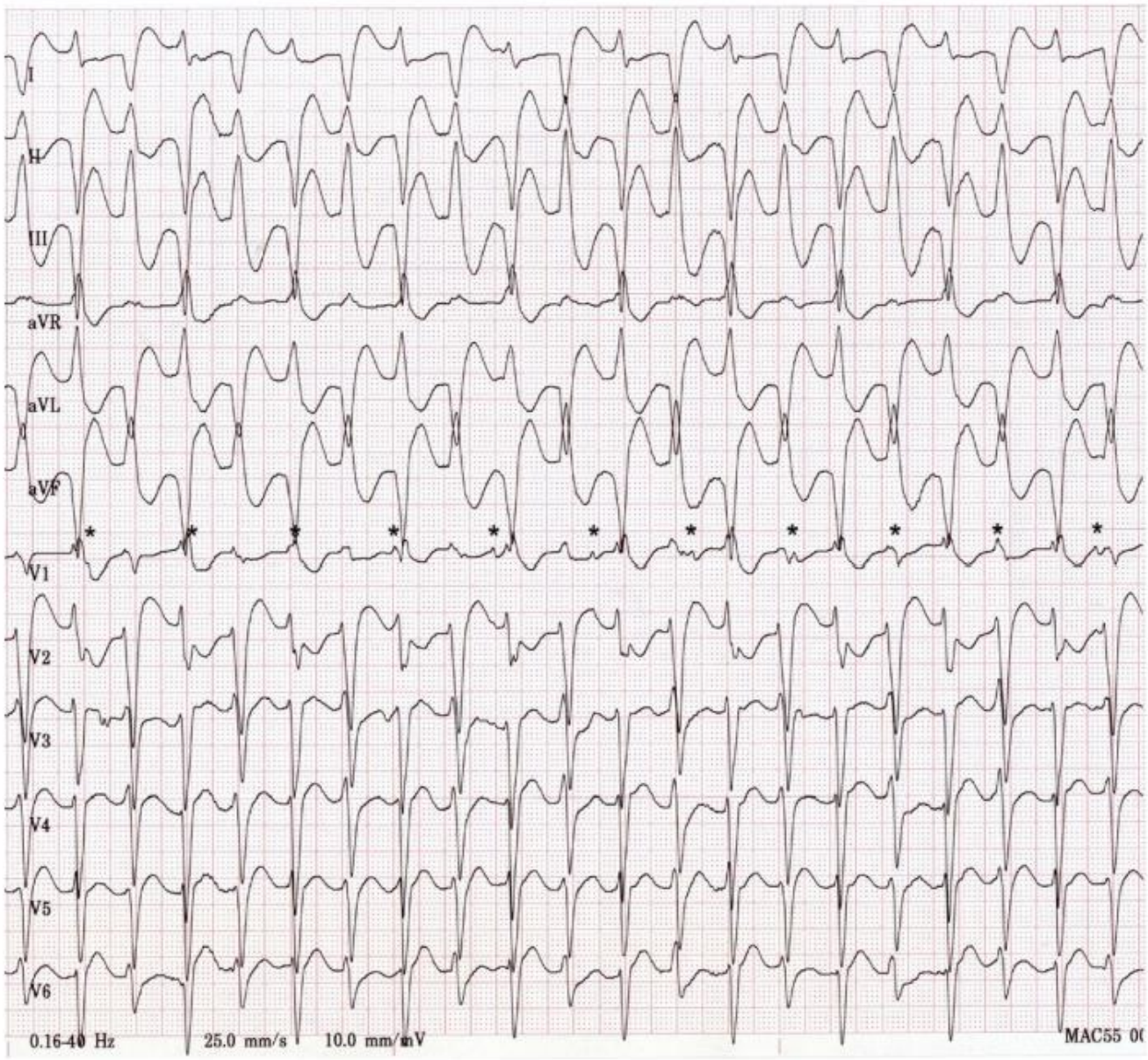
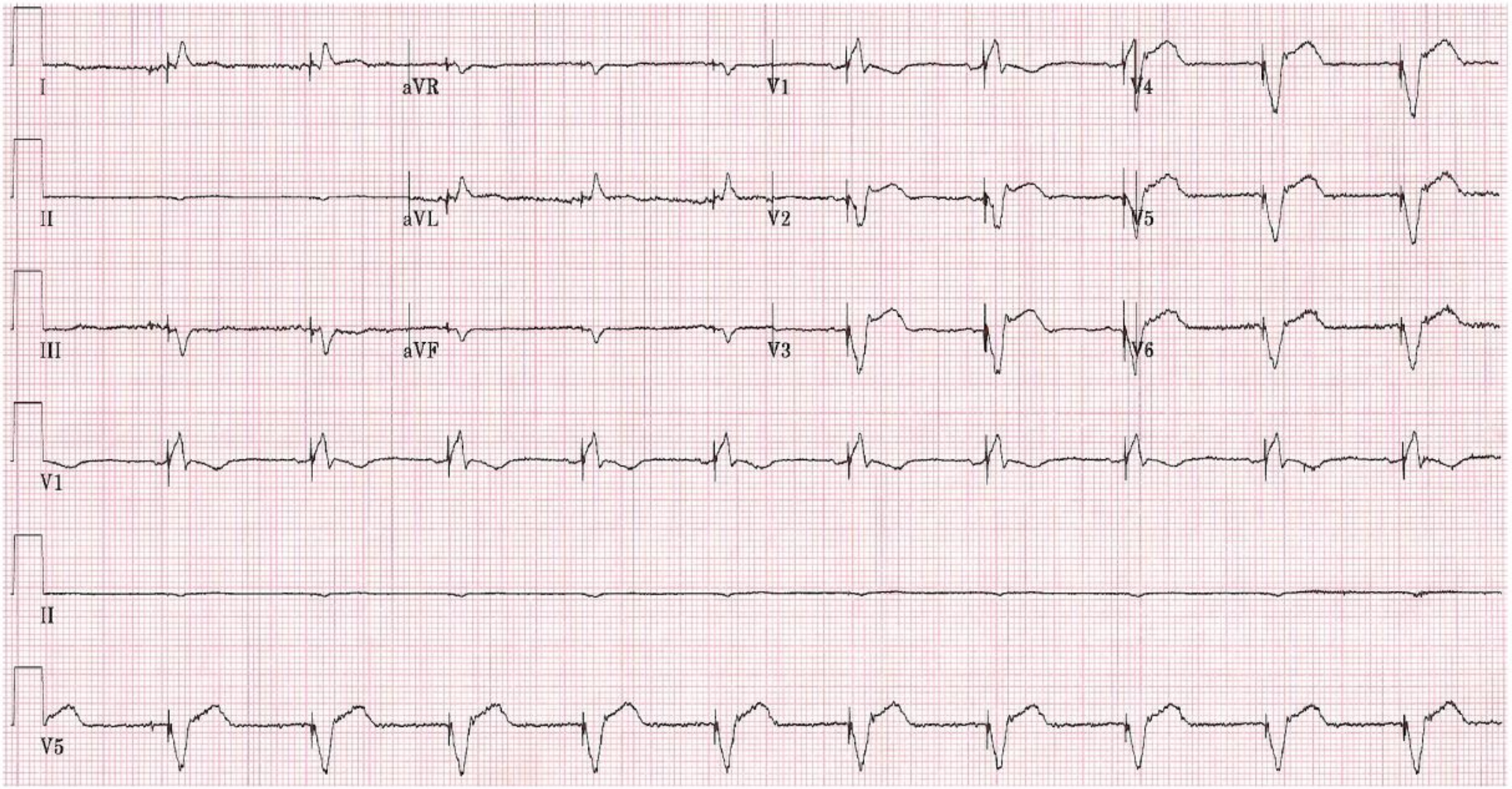


ECG #23
54 YO male with heart failure

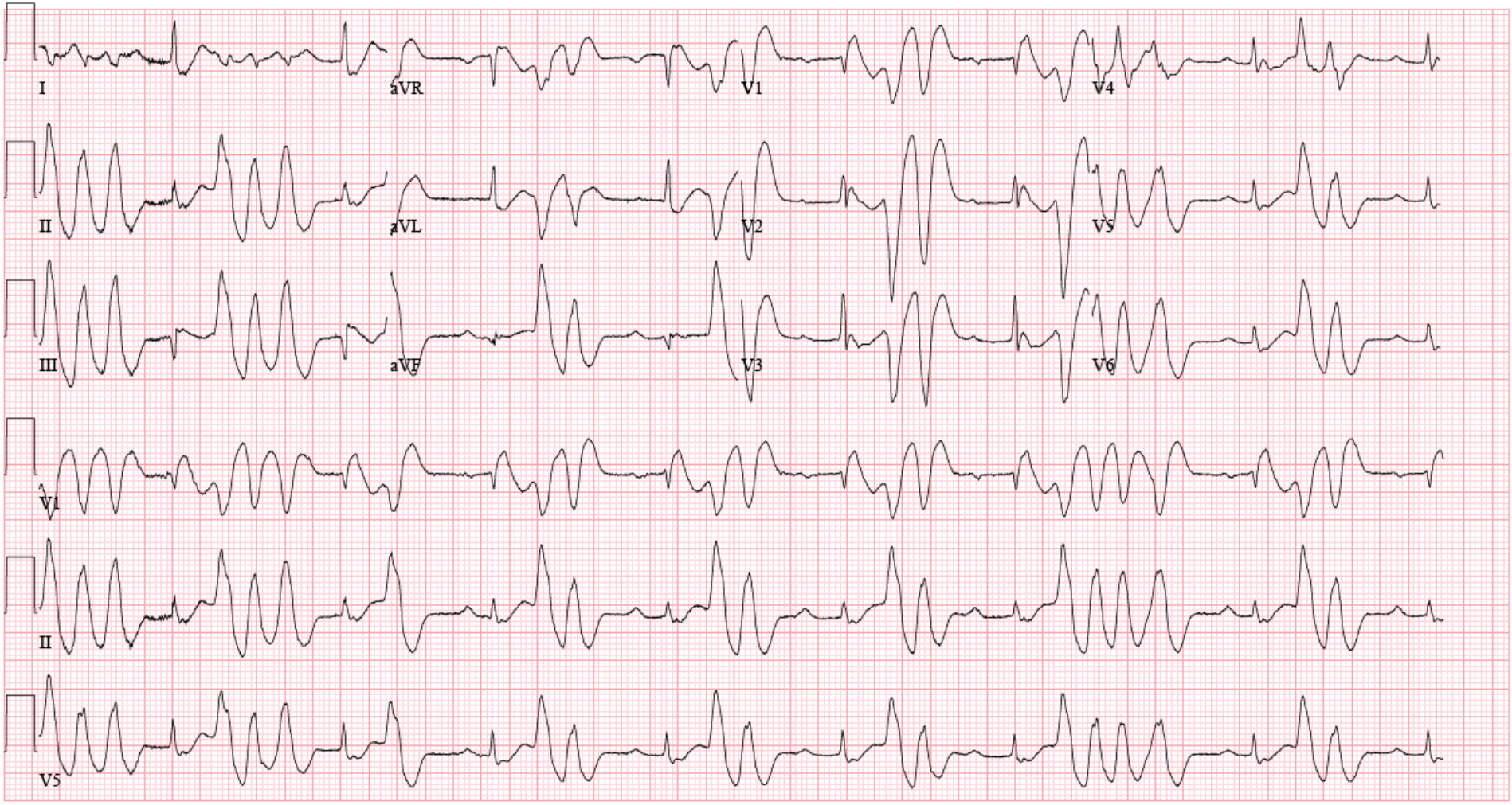


Updated 2023.04.23

ECG #24
54 YO male with heart failure



ECG #25
54 YO male with heart failure



Foreword to the First Edition

When thou arte callde at anye time,
A patient to see;
And doste perceave the cure too grate,
And ponderous for thee;

See that thou laye disdeyne aside,
And pride of thyne owne skyll;
And thinke no shame counsell to take,
But rather wyth good wyll.

Gette one or two of experte men,
To help thee in that nede;
And make them partakers wyth thee,
In that worke to procede.

—John Halle, M.D. (1529–1566)
From *Goodlye Doctrine and Instruction*

The practicing internist is often called on to provide advice to colleagues. The time devoted to this endeavor during medical residency training varies from program to program but in general is not consonant with the need. A busy general internist may spend up to 40% of practice time providing consultations. The error made in most training programs is the assumption that, if a physician is competent to care for the diabetic on a medicine service, then he or she is competent to manage the diabetic through delivery or a surgical procedure. In fact, to give valuable service the consultant needs to understand the exigencies of anesthesia, the surgical procedure, the dynamics of pregnancy, labor, and delivery, and the disposition of colleagues.

The general internist is often in the best position to understand and work with these multiple variables. By virtue of their usual practice mix, general internists are faced daily with "interface medicine." Multiple medical problems in the same patient are the rule in general internal medicine, and the proper care of such patients requires knowledge of the effects of one disease on another, the hazards of polypharmacy, and the importance of the larger picture of health and disease.

Because these considerations and techniques are not the province of traditionally oriented textbooks, the editors felt the need to present this information in a composite form. Although chaptered and indexed in usual organ or disease entity ways, the information stresses the effects of surgery or pregnancy on a disease process or, conversely, the effects of a disease or pregnancy on the outcome of surgery. Further, the editors and contributors provide specific practical management advice designed to minimize these effects.

Before launching into the specific portions of this text, we would offer some general recommendations regarding the conduct of consultations which experience has taught us are worth bearing in mind as you make your appointed rounds.

KNOW FOR WHOM YOU ARE PROVIDING THE SERVICE. Different services may be looking for different kinds of advice. So, too, some individual physicians may routinely call for specific types of assistance.

KNOW WHY YOU ARE BEING CONSULTED. In general terms the request may be: "Help! What do I do now?"; "Come argue with another consultant"; or "Come see what a nice job I've done." More specifically, try to elicit the exact question being asked.

BE BRIEF—ALLOW FOR SELECTIVE READING OF YOUR NOTE. Long notes are not read. You should title sections of your note so that areas of interest for different readers will be readily identified. If you wish to record information for your own future review or to help a covering consultant, separate it from the rest of your text.

BE SPECIFIC WITH RECOMMENDATIONS. Therapeutic measures should be spelled out with respect to drug, dose, route of administration, desired effect, and toxicity.

SUPPORT YOUR RECOMMENDATIONS AND IMPRESSIONS. Your text should include the data to warrant a diagnosis and the indications for diagnostic and therapeutic recommendations.

TEACH THE READER. You have been asked to provide a special service. This is an admission that the requestor seeks information. Your experience with similar cases and pertinent points from the literature are appropriate.

FOLLOW-UP. It is a rare consultation which should involve one visit. If that is the case, you should indicate that you will not return unless requested. Your note should include what progress you expect and should provide the opportunity to change your problem list as the data base expands. Flow sheets which you can initiate might be a worthwhile venture. The follow-up visit is your best learning device.

BE CHARITABLE. You do not help the patient when you shame or anger his doctor.

ATTEMPT PERSONAL COMMUNICATION. This is a courtesy which allows you to amplify your note and reinforce your recommendations.

BE HONEST. You have been called in as an expert. Do not suggest diagnoses which are not supported by the data. Get help when you need it or recommend other consultants who can deal adequately with the situation.

The editors and contributors to this volume are from two training programs that endeavor to stress consultation skills as important educational components. All have wide experience in both providing and teaching consultations. Their contributions contain the science of the discipline and the wisdom of having done it many times.

J. W. Burnside

1

General Medical Consultation Service: The Role of the Internist

Richard J. Gross and William S. Kammerer

Little formal attention has been directed to the rôle of the internist as a consultant. Most authors have concentrated on a brief list of responsibilities or ethical constraints to prevent patient stealing or fee splitting. A few of the major figures in American medicine in the early 20th century commented briefly on the consultant's role, but none elucidated their philosophy in detail. The purpose of this chapter is to outline the consulting internist's role in relationship to the patient, the problem, and the consulting physician.

The opinions and reports of the Judicial Council of the American Medical Association contain the most comprehensive list of consultant responsibilities (1). The AMA document lists nine ethical principles of consultation:

1. One physician should be in charge of the patient's care;
2. The attending physician has overall responsibility for the treatment of the patient;
3. The consultant should not assume primary care of the patient without the consent of the referring physician;
4. The consultation should be done punctually.
5. Discussions in consultation should be with the referring physician and only with the patient with the prior consent of the referring physician;
6. Conflicts of opinion should be resolved by a second consultation or withdrawal of the consultant; however, the consultant has the right to give his opinion to the patient in the presence of the referring physician.*

A consultation should be differentiated from a referral, although these two terms are often used interchangeably. A consultation is strictly defined as requesting another physician to give his opinion on diagnosis or management. Referral means to request another physician to assume direct responsibility for a portion or all of the patient's care. A referral may be for a specific problem or total care of the patient.

We have conceptualized the role of the consultant as outlined below, based on clinical experience, discussion with other internists, and review of available literature. The performance of a consultation involves the phases of initial contact, completion of the consultation report, and follow-up (Table 1.1).

*The other three principles involve responsibilities of the referring physician for obtaining consultations. 1) Consultations are indicated "upon request," in doubtful or difficult cases, or when they enhance the quality of medical care. 2) Consultations are primarily for the patient's benefit. 3) A case summary should be sent to the consulting physician unless a verbal description of the case has been given.

Table 1.1. Role of the Consultant

Initial Contact
1. Consultation Request
2. Referring Physician
3. The Patient

Completion of the Consultation Report
4. Existing Data Base (Chart)
5. The Consultation Report
6. Timeliness
7. Relationship to Other Consultants

Follow-Up
8. Follow-Up
   a. Inpatient
   b. After discharge (primary medical physician)

INITIAL CONTACT

The Consultation Request (Statement of the Problem)

Commonly, consultations are submitted without a clear statement of the question(s) to be answered by the consultant. A consultation request stating the problem as "angina" might be submitted in the following greatly different situations: a patient with atypical chest pain where the referring physician wants confirmation of a noncardiac etiology; a patient with refractory angina referred for cardiac catheterization prior to noncardiac surgery; a patient with stable angina where the surgeon desires to know if further therapy is necessary; a patient with new chest pain and gallbladder disease where the physician desires to know the etiology of the pain; or the patient with symptomatic gallstones where the referring physician desires to know if the patient can withstand surgery. **A precise understanding of the reason(s) for a consultation** is imperative for the consultant to provide optimal service to the referring physician and to the patient. Poorly defined reasons for consultation often lead to duplication of effort, increased costs to the patient, and suboptimal care.

In addition, it is important for the consultant to know what procedure is planned, what alternatives the referring surgeon will or will not consider, what benefits the procedure or alternatives offer the patient, and the extent of involvement in patient care and follow-up desired by the referring physician. Speaking with the referring surgeon for a few minutes before seeing the patient to clarify the reason for consultation will save time and result in more specific suggestions. The consultant should remember that he was called to help and not to be another burden with peripheral questions and suggestions that are not pertinent to the problem at hand.

The Referring Physician

Conflicts over patient management between referring physicians and consultants are among the most difficult areas of interprofessional relationships. Contributing factors to these disagreements are differences in expertise between physicians as training becomes more specialized; differences in the approach to common problems between internists, anesthesiologists, and surgeons; and differences in philosophy between internists and surgeons about how closely the patient needs to be followed or the urgency for surgery. In academic institutions, the departmental structure can foster conflicts between different services.

It serves no purpose to criticize the referring physician because of differences in knowledge or in philosophy of patient care. This serves only to increase the resistance to recommendations or to decrease appropriate consultation in the future, both of which depend on some goodwill. In our experience, the best way to prevent conflicts is communication prior to the consultation as described above, and verbal, as well as written, transmission of recommendations, especially when some controversy is anticipated. Restricting recommendations to those that will have an impact on diagnosis and therapy is appreciated by many surgeons and patients.

Methods of resolving conflicts vary in academic and community practice situa-

tions. In academic settings, a case conference including residents, consultants, and attending physicians is useful, especially if guided by a senior attending physician. Communication between senior attending physicians can often resolve problems that begin on the resident or fellow level. In either training or private practice settings, utilizing persuasion by other consultants or obtaining a second formal consultation can be helpful.

The Patient

The following information should be explained to the patient at the beginning of the consultant's visit: (1) your name, (2) that you are a consultant requested by his/her physician, (3) the service that you represent, and (4) the reason for the consultation. If more than one person from the consulting service will see the patient (e.g., medical student, fellow), this should be explained along with each person's role.

It is regarded by many physicians as discourteous, if not "unethical," for a consultant to discuss diagnostic and therapeutic recommendations with the patient before obtaining the specific approval of the referring physician. The consultant must work out any differences of opinion with the referring physician before relating these to the patient. If important, irreconcilable differences of opinion exist, they should be cited specifically in the chart with a request for another opinion to help resolve the dilemma. If all else fails, the consultant should indicate to the patient his intention to withdraw from the case because of disagreement with the patient's physician on a diagnosis or a management plan, and explain that it is the patient's right to request that his physician seek another opinion.

COMPLETION OF THE CONSULTATION REPORT

The Existing Data Base (Chart)

A careful review of the patient's chart is necessary for a complete consultation. This review should include obtaining outside office or hospital records, unreturned laboratory data (especially those tests sent to bacteriology, serology, or out-of-hospital laboratories), and a personal review of electrocardiograms, x-rays, and gram-stained smears.

The Consultation Report

A consultation to a nonmedical service should include a very brief summary of the history and hospital course. The aspects of the physical examination important to the problems for which the consultation was obtained should be detailed, particularly any differences from those recorded by the primary physician. Only pertinent laboratory data should be listed, preferably in a flow sheet form. Most emphasis should be placed on the consultant's impressions and recommendations including a brief discussion of:

1. How the conclusions were reached;
2. The reasons for suggestions listed in the recommendations.

We have found the following format useful for recording consultations: Impressions; Recommendations; Discussion; References (see Figs. 2.1, 2.2, pp. 12–15). The impression, discussion, and recommendations should specifically address the central question asked by the referring physician, as well as more general problems.

Consultations on medical services will, in most instances, be somewhat longer and more detailed. References supporting recommendations are often appreciated, especially on academic services. These are generally interpreted as indicators of the enthusiasm of the consultant and often help to forestall disagreements based upon opinions rather than on fact.

A complete recording of a comprehensive history and physical examination for a hospitalized patient should not be necessary. This is the responsibility of the primary service. The consultant's report should be confined to the major and pertinent problems identified and to any dif-

ferences in observations from those recorded by the primary physician.

Recommendations should be as specific as possible because the referring physician may not be familiar with the performance of certain tests or the use of unfamiliar drugs. For example, one should not write to "digitalize the patient," but to give "digoxin 0.25 mg orally now, again in 6 hours, and then once a day." Large numbers of recommendations are less likely to be carried out on surgical services. There should be some balance between the desire to comprehensively cover all problems no matter how unrelated or minor, and what can be practically achieved. Some non-acute recommendations may need to be deferred to later follow-up notes in complex patients, to increase the likelihood that suggestions will be carried out. Critical or stat recommendations should be listed first and clearly labeled as urgent (1–8). It is useful to discuss specific impressions and recommendations with the referring service; this is mandatory if recommendations are urgent or many.

The consultant should provide the surgeon with: (1) a clear, concise evaluation of medical risks; (2) measures to improve or stabilize the patient preoperatively; (3) postoperative medical considerations; and (4) the role he/she will assume in the overall care of the patient (9, 10).

Timeliness

Consultations are often asked for in a rushed manner, whether because of the patient's critical state or for the convenience of the referring physician. There is some truth to the saying, "consultations requested today were urgently needed yesterday, and should have been requested one week ago." Such "urgent" consultations should be seen promptly, regardless of whether mandated by the patient's condition or the physician's request. Elective consultations for surgery should be done so as not to postpone surgery, even if the request was received late. Patients will appreciate this courtesy as it may often prevent prolonging costly hospitalization. In cases of repeated unnecessary requests for urgent consultation, a gentle reminder of the inconvenience is usually sufficient. Regardless, all consultations should be seen for at least a brief triage assessment on the day they are received. The problem of unrecognized severity is just as important and common as the situation where the severity is known to the referring surgeon. If the consultation cannot be completed on the day received, the anticipated delay must be immediately and directly communicated to the referring physician.

Relationship to Other Consultants

The general internist is commonly in a position of being one of a number of medical consultants on an individual patient (60% of the time in a study from the University of Chicago) (8). A common mistake is to simply make suggestions for the specific problem(s) relating to one's specialty. Conflicts with the suggestions of other consultants most often arise in this manner. Conflicts may include different advice for the same problem and recommendations for therapy that may adversely affect another problem or interfere with another consultant's recommendations. The consulting internist needs to keep abreast of the suggestions of other consultants and, in many cases, to negotiate with them as indicated. One of the functions of the general internist should be to integrate advice from the subspecialists and to help resolve conflicting suggestions.

FOLLOW-UP

There are no specific data on how often follow-up visits need to be made by the consultant. The consultant's advice is more likely to be taken if follow-up is more frequent and documented with a progress

note (6, 11). The need for follow-up visits ranges from 2–3 visits per day for a critically ill patient (e.g., with a myocardial infarction after surgery), 2–3 visits per week for a relatively stable patient (e.g., with a resolving postoperative pneumonia), or one visit per week for a stable patient (e.g., awaiting return of a laboratory value for an elective workup). **The type and frequency of follow-up should be specifically listed** as part of the recommendations/plan in the initial consultation note.

Brief progress notes should usually be made for each consultation visit. Emphasis should be placed on new data, changes in impressions, and suggested changes in tests or therapy. Problem oriented flowsheets attached to the patient's original consultation and updated on each visit are an efficient way of recording data. The frequency of or need for continued follow-up should be questioned if the consultant does not feel that follow-up notes need to be made on more than an occasional visit. Recommendations should be documented in follow-up notes as well as communicated verbally, since the record provides the only means of reviewing the longitudinal course of the patient. Verbal interchange is quite useful for the same reasons as the initial consultation report. **A written note should document when the consultant will no longer follow the patient and that the consultation is complete.** A common and inexcusable practice by many consultants is to just stop seeing the patient with only a vague word to the referring service that follow-up is discontinued. This may mislead the referring physician into thinking that everything is going well with the patient, when in reality the patient is doing poorly and is not being followed.

A final job of the consultant is to assure continuity of the patient's care for medical problems after discharge. It is easily accomplished if the consultant is also the patient's primary physician. Minor problems are often adequately handled by mentioning to the surgeon what information should be communicated to the primary physician, either verbally or in the discharge summary. Contact between the consultant and the patient's primary medical physician is important for serious medical problems or complex patients. In this case, a letter to the primary physician is often indicated, after coordinating one's recommendations with the physician who requested the consultation. The consultant should assist in making arrangements for medical follow-up care when the patient has no primary medical physician.

EFFECTIVENESS OF CONSULTATIONS: AN EVALUATION

Considerable literature has recently become available on the effectiveness of medical consultants on nonmedical services (1–8, 10, 11, 13, 14). Using the principles of consultation listed above, certain aspects of the consultant's role can be identified that have the most influence on his recommendations being carried out by the referring physician (the "best" measure of consultation "quality").

The available literature is limited because only one measure of consultation quality was examined (the referring physician's compliance with carrying out the consultant's advice) and because the data were gathered from mostly academic institutions, where the consulting and referring physicians may be attendings, residents, or medical students. The relevance of this data for the different setting of private practice is not established.

Compliance with the advice of the consultant ranged from 54–77% of recommendations made in academic centers (Table 1.2). A study (3) from a military teaching hospital found that 90% of recommendations made were done, suggesting compliance may be higher in nonacademic settings.

In studies of medical consultation on nonmedical services, the referring and

Table 1.2. % Compliance with Advice of Medical Consultant

Study	% Compliance*
Klein (1)	54%
Sears (4)	77%
Pupa (3)	90%
Ballard (5)	72%

*% Compliance = number of recommendations carried out/total number of recommendations by consultant.

consulting physicians disagreed in some manner on the major reason for the consultation in about 14–36% of cases (Table 1.3). The reasons for the disagreements varied among studies, including the referring physician never having stated a reason for the consult, the consulting physician's note not answering the major question asked by the referring physician, or both physicians having stated different reasons for the consultation. Obviously, if the consultant does not answer the *"central question"* (2) for the consultation *specifically* in his report, the consultation has not served its intended purpose, no matter how much more important or interesting other problems may be. Several factors have been noted to improve compliance with the consultant's advice in multiple studies, (Table 1.4) (3).

Most of these factors are within the consultant's ability to change, except the severity of illness and type of recommendation (diagnostic vs. therapeutic) (9, 10

Table 1.3. Referring/Consulting M.D. Disagreement* on Central Reason for Consultation

Study	% Disagreement
Lee (7)	14%
Horowitz (6)	18%
Rudd (8)	36%

*Disagreement was defined variously as different reasons, no stated reason for consult, or consult report not answering question listed by referring physician.

Table 1.4. Factors Improving Compliance with Medical Consultant's Recommendations

	Ref.
1. Consultation performed within 24 hrs. of request.	6
2. Follow-up (frequent, follow-up notes more than 2 follow-up visits.	6, 11
3. Verbal contact with referring M.D.; positive attitude towards referring service.	3, 7, 8
4. Limited number of recommendations (≤5).	1–4
5. Recommendation related to *"central reason"* for consultation.	2, 4, 7
6. Definitiveness of recommendation.	1, 2, 6–8
7. "Crucial" (vs. routine) recommendation.	3–5
8. Specific details for drug recommendations (dose, duration).	6, 8, 11
9. Medication/treatment (vs. diagnostic) recommendation.	1–5
10. Severely ill patient.	4, 5

in Table 1.4). The way the consultation is performed affects it outcome. Improved compliance was found when the consult was performed promptly (within 24 hours), follow-up was frequent and noted in the chart, and when the consultant discussed his findings with the referring physician. Aspects of the recommendations that improved the consultation included limiting the number of recommendations to five or less, keeping recommendations tied to the central reason for the consultation, making the recommendation definite (i.e., written as "do today" versus "suggested"), and listing specific details, especially for drug recommendations (such as dose and route of administration).

Although, performing the consultation within the points listed (Table 1.4) improves compliance with advice, these points cannot always be followed. Many patients have multiple serious problems requiring recommendations other than the disease

for which the consultation was requested. Severely ill patients tend to have more recommendations made by the consultant (3–5); often these cannot be reduced to five or less recommendations. There is a need to document recommendations for unrelated problems affecting the patient's health for medicolegal reasons. An approval to take in handling consultations where the points in Table 1.4 must be violated (e.g., a large number of recommendations), includes personal, verbal discussion with the referring physician (1, 2, 7, 12), often on a repeated basis during the follow-up period. More elective recommendations for peripheral problems can be deferred to follow-up notes once the critical recommendations are carried out. There is a tendency to list every recommendation in the initial consultation report, even if they involve long-term, nonacute problems, which may overwhelm the referring physician caring for an acutely ill patient, and be forgotten later in the course.

Two recent preliminary studies have suggested that the yield (in terms of new problems identified) of perioperative medical consultation are found mostly in high-risk patients (such as over age 50 or ASA Class III–IV) (15, 16).

SUMMARY

Burnside (17), Goldman and Rudd (18) and Merli and Weitz (19) have summarized a philosophy of consultation into the "Ten Commandments of Consultation" (Table 1.5) based on their experience as consultants and on the literature cited above. They serve as a brief (pocket) reminder of the important points of consultation listed above.

The skills and process of consultation are learned through experience and through observing accomplished senior consultants. This analysis is not intended to supplant such experiences, but to complement them by providing an outline for critical observation of patient care. A number of residency programs have established general medical consultation services with the aim of teaching these consultation skills (see pp. 10–11).

In summary, the ideal consultant as described by Bates (20, 21) is one who, "informs without patronizing, educates without lecturing, directs without ordering, and . . . solves the problem without making the referring physician look stupid." The consultant, then, should try always to support the referring physician, comfort the patient, and be specific.

Table 1.5. Ten Commandments for Consultations*

1. Determine the question.
2. Establish urgency.
3. Obtain your own primary data.
4. Be brief in your report.
5. Be specific in your recommendations; support your impressions and recommendations. (Be honest.)
6. Provide contingency plans.
7. Respect the referring physician's prerogatives.
8. Teach.
9. Talk with the referring physician.
10. Provide follow-up

*Slightly adapted from ref. 17–19.

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