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Out on the Border, Walking the Line*

ABSTRACT & COMMENTARY

Synopsis: *Patients with borderline personality disorder are common in primary care practices, but many are invisible to physicians.*

Source: Gross R, et al. *Arch Intern Med.* 2002;162:53-60.

Borderline personality disorder (BPD) is "a pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity beginning by early adulthood and present in a variety of contexts."[1] At least 5 of the following must be present: 1) frantic efforts to avoid real or imagined abandonment; 2) a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation; 3) identity disturbance: markedly and persistently unstable self-image or sense of self; 4) impulsivity in at least 2 areas that are potentially self-damaging; 5) recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior; 6) affective instability due to a marked reactivity of mood; 7) chronic feelings of emptiness; 8) inappropriate, intense anger or difficulty controlling anger; and 9) transient, stress-related paranoid ideation or severe disassociative symptoms. Some days, it seems that every other patient fits this description, but just how common is this disorder in primary care?

Gross and colleagues set out to answer this question and 3 others: are BPD patients functionally impaired?; how do they compare with patients who have other mental illnesses?; and are they clinically recognized and treated?

Drawing from a predominantly older (average age 53.5), Hispanic (69.3%), and poor (85.3% with annual income less than $12,000) population attending their general medicine academic practice in New York City, they called 218 patients. Study participants were administered several surveys. One measured the patients' perceptions of their physical and mental health. Others were sections from the Patient Health Questionnaire, the self-report version of the Primary Care Evaluation of Mental Disorders, the Mini-International Neuropsychiatric Interview to evaluate psychotic symptoms, the

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Sheehan Disability Scale, and a sociodemographic questionnaire. These surveys were supplemented by a structured diagnostic interview, and the Medical Outcomes 36-item Short-Form Health Survey (SF-36), the Social Adaptation Self-evaluation Scale (SASS), and the Social Adjustment Scale-Self-Report (SAS-SR). The physicians seeing these patients completed an encounter form, which rated their perceptions of the patients' physical and mental health.

The patients were divided into 3 groups: those with BPD and 2 control groups, those with a different psychiatric diagnosis (DPD), and those without any psychiatric diagnosis. The group of patients with other mental disorders was included because BPD patients have high rates of comorbid mental disorders. Fourteen patients (6.4%) met Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DMS-IV) criteria for BPD, 51 had other psychiatric disorders, and 140 were control subjects. The BPD patients were demographically similar to the comparison and control patients, except for gender. There were more females in the DPD group (90.2%) than in the BPD (78.6%) and control groups (71.4%).

As expected, the BPD (21.4%) and DPD (19.6%) groups had more suicidal ideation than the control group (5.7%). The BPD group (71.4%) had more psychotic symptoms than the other 2 groups (39.2 and 10.0%, respectively), and, by definition, the BPD group had more BPD symptoms. Interestingly, 21.4% of the BPD group met criteria for bipolar disorder; none of the patients with any other psychiatric disorder did.

Are BPD patients functionally impaired and how do they compare with patients who have other mental illnesses? Yes, and essentially the same. They and the DPD group had about twice as much reported poor or fair emotional health as compared to controls (78.6%, 76.5%, and 35.0%, respectively). The 2 groups also had more reported poor or fair physical health (71.4%, 82.4%, and 59.3%) and disability (57.1%, 60.8%, and 25.7%). Additionally, their SF-36 scores for mental health were worse than the control group. However, the SF-36 scores for physical health were not significantly different between the 3 groups. The BPD and DPD groups scored worse that the control group on both the SAS-SR and SASS scales.

Are they clinically recognized and treated? Not really. The physicians identified 54.5% of BPD patients, 55.0% of the DPD patients, and 31.9% of those without any psychiatric diagnosis with poor or fair current emotional health. They rated 54.5% of the BPD patients, 75.6% of the DPD patients, and 35.6% of the presumably normal controls with "active or ongoing emotional or mental problems." Approximately one half of the BPD and DPD patients received mental health care in the preceding year, compared to less than 1 in 10 of the control group.

COMMENT BY ALLAN J. WILKE, MD

BPD first officially appeared in the DSM in 1980; the borderline referred to that no-man's land between neurosis and schizophrenia, although the DSM does not currently support this implication.[2] It is present in the general population at 1-2% with more women than men affected, and in clinical settings, it is the most commonly seen personality disorder. Not sure what borderline personality looks like? Tonight, after work, go to your neighborhood video rental store and pick up *Fatal Attraction*, *Looking for Mr. Goodbar*, and *Play Misty for Me*.[3]

Is there any reason to question the results? The

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study population was poor Hispanic, which may not describe the population you serve. However, the disorder is present in cultures all around the globe.[4] We may fault the physicians for overcalling poor mental health in the control group, but, then again, 10% of these "normals" reported delusions or hallucinations in the recent past.

In October 2001, the American Psychiatric Association published the *Practice Guideline for the Treatment of Patients with Borderline Personality Disorder*.[5] The treatment is a minimum of 1 year of psychotherapy, plus pharmacologic symptom control (initially, selective serotonin reuptake inhibitors for affective dysregulation and impulsive, disinhibited behavior and neuroleptics for cognitive-perceptual symptoms).

The results of this study would indicate that the prevalence of BPD in a primary care office is 3-6 times that of the community at large (lucky us!). Unfortunately, for our BPD patients, who are prone to suicidal ideation and who have psychiatric comorbidity and functional impairment, we do not recognize them. Disease unrecognized is disease untreated. ■

(**with apologies to The Eagles.*)

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3. Hyler SE, et al. *Bull Menninger Clin.* 1997;61:458-468.
4. *Psychiatr Serv.* 2001;52:1267.
5. *Am J Psychiatry.* 2001;158(10 Suppl):1-52.

Barrett's Esophagus

ABSTRACT & COMMENTARY

Synopsis: *This elegant review puts Barrett's esophagus in clinical perspective. Written by an expert, Barrett's esophagus is described in detail, including endoscopic and histopathologic recognition, epidemiology, and current management.*

Source: Spechler SJ. *N Engl J Med.* 2002;346:836-842.

Barrett's esophagus is a specialized columnar metaplasia of the squamous mucosa of the esophagus, thought to be associated with development of adenocarcinoma in as many as 0.4-0.5% of cases/year. Long-segment Barrett's (> 3 cm) is found in 3-5% of endoscopies for chronic reflux symptoms, and short-segment Barrett's occurs in 10-15% of patients. Barrett's esophagus occurs mostly in Caucasian men in whom frequency of this cancer has quadrupled over a few decades. Controversy exists as to whether an extremely short segment of this mucosa has the same risk as classical long-segment Barrett's. Endoscopy has been advocated to screen for Barrett's, hoping that this might decrease the risk of death from cancer: particularly in obese white males aged older than 50 with symptoms over 5 years duration. However, such screening won't have much effect on cancer death rates since 40% of patients with esophageal adenocarcinoma have no history of reflux at all. Studies of surveillance have not demonstrated any decrease in death rate in those surveyed. Costs of surveillance are high, and the absence of demonstrable benefit has led some to urge against routine surveillance in any group.

Although it might seem reasonable to treat Barrett's patients with aggressive acid suppression to diminish cancer risk, there is no evidence that maximal acid suppression or antireflux surgery have any effect on cancer progression. Low-grade dysplasia cannot be reliably determined in biopsy material from Barrett's mucosa, and natural history of low-grade dysplasia is uncertain. If screening is undertaken, finding of high-grade dysplasia is supposed to lead to esophagectomy, ablation therapy, or perhaps to intensive further surveillance. Esophagectomy is the only option shown to prevent the progression of dysplasia to cancer, but it has a mortality of 3-12% and 30-50% have serious operative complications.

Many gastroenterologists and the major GI societies propose that surveillance of Barrett's esophagus should be done every 2-3 years. Low-grade dysplasia is thought to warrant repeated endoscopy at 6 and 12 months, then yearly if no further dysplasia is found. Dr. Spechler believes that data warrant surveillance done at 5-year intervals in Barrett's without dysplasia, but he seems to agree with the other recommendations despite his own caveats that they are only poorly supported by "hard data." Dr. Spechler currently believes that ablative therapy should only be done in conjunction with controlled study protocols.

■ COMMENT BY MALCOLM ROBINSON MD, FACP, FACG

It seems critical to remember that no current approach to Barrett's esophagus has been validated by any study demonstrating prolongation of survival or improved quality of life. Moreover, the rule in medicine to "first do no harm" does not seem to be upheld by our currently approved management recommendations for

Barrett's screening or the suggested interventions based on findings from such screening. ■

Reducing Antibiotic Use for Acute Bronchitis in Primary Care

ABSTRACT & COMMENTARY

Synopsis: *This current study proved that reassurance in patients with acute bronchitis might be a safe strategy in reducing antibiotic use.*

Source: Macfarlane J, et al. *BMJ.* 2002;324:91-94.

ACUTE BRONCHITIS IS A COMMON CONDITION AND IT is well known that most adults who consult their primary care doctor for this will receive antibiotics. However, antibiotics do not affect the natural course of the symptoms, and the concern is that overuse of antibiotics will increase the prevalence of drug resistance.

Macfarlane and colleagues performed a nested, single-blind, randomized controlled trial in 3 suburban general practices in Nottingham, England, to assess whether sharing the uncertainty of the value of antibiotics for acute bronchitis would affect the likelihood of patients taking antibiotics. Inclusion criteria were patients aged older than 16 years and previously well and with no significant past medical history (eg, asthma, COPD, DM, CAD, etc). Lower respiratory tract infection was diagnosed if there was an acute illness of less than 21 days, associated with cough as the main symptom, with no alternative explanation. Two hundred fifty-nine patients agreed to enter the study and were divided into 2 groups. Group A (212/254) patients were those in whom antibiotics were not indicated, and group B (44/259) were those who definitely required antibiotics. Patients in Group A were subsequently randomized into 2 groups. Both groups (A1 + A2) were given verbal explanations that the use of antibiotics was not necessary. Group A1 was also given a leaflet reinforcing the verbal warning. Group A2 was the control group and received no leaflet. Both groups were also given a prescription for antibiotics to keep at home and were advised to use their judgment whether to use it in due course. The primary end point was whether the patients took antibiotics. The secondary outcome was whether patients initiated a further consultation for the same symptoms within the next month.

Fewer patients who received the leaflet (Group A1) took antibiotics, compared to the control group (47% vs 62%, risk ratio 0.76; 95% CI, 0.59-0.97, $P = 0.04$; number needed to treat 6.7). They also found no evidence of confounding by age, sex, smoking status, whether patients paid for their prescriptions, and duration of cough. The reconsultation rates were similar for all patients in Group A.

■ **COMMENT BY DAVID OST, MD, & ANDREAS KYPRIANOU, MD**

Most episodes of acute bronchitis resolve on their own, but most patients who consult their primary care physician initially expect to receive antibiotics.[1] This study demonstrated that only 20% of patients actually required antibiotics, which is consistent with the results from other studies.[2]

This study suggests that by sharing information both verbally and in writing, unnecessary antibiotic use can be significantly reduced. ■

Dr. Kyprianou is Chief Resident of Internal Medicine, New York Hospital Medical Center, Queens/Cornell Medical Program, New York, NY.

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1. Arroll B, et al. *BMJ.* 2001;322:939-940.
2. Gonzales R, et al. *Lancet.* 1995;345:665-666.

Adding Insulin Early to Sulfonylurea Therapy is Beneficial

ABSTRACTS & COMMENTARY

Synopsis: *Early addition of insulin to maximal sulfonylurea therapy improved glycemic control without promoting hypoglycemia or weight gain.*

Sources: Wright A, et al. *Diabetes Care.* 2002;25:330-336; Riddle MC. *Diabetes Care.* 2002;25:395-396.

THE UNITED KINGDOM PROSPECTIVE DIABETES study (UKPDS 57) has added much to our knowledge regarding the progression of type 2 diabetes and the importance of tight glucose control. UKPDS 57 was activated when it was realized that progressive hyperglycemia was occurring in all of the patients being studied. It was thought that the addition of

insulin to sulfonylurea therapy at the stage of inadequacy rather than sulfonylurea failure might prove to be beneficial.

Glycemic control, hypoglycemia, and body weight were monitored over 6 years in 826 patients with newly diagnosed type 2 diabetes in 8 of the 23 centers that used a modified protocol. Patients were randomly allocated to a conventional glucose control policy, primarily with diet (n = 242) or an intensive policy with insulin alone (n = 245), as in the main study. However, for patients randomized to an intensive policy with sulfonylurea (n = 339), insulin was added automatically if the fasting plasma glucose remained > 108 mg/dL (6.0 mmol/L) despite maximal sulfonylurea doses.

Over 6 years, 53% of patients allocated to treatment with sulfonylurea required additional insulin therapy. Median HbA1c in the sulfonylurea + or - insulin group was significantly lower (6.6%) than in the group taking insulin alone (7.1%), and significantly more patients in the sulfonylurea + or - insulin group had a HbA1c < 7. Weight gain was similar in the intensive therapy groups, but major hypoglycemia occurred less frequently over all in the sulfonylurea + or - insulin group, compared with the insulin alone group (1.6 vs 3.2% Per annum, respectively; $P = 0.017$).

The study concluded that the early addition of insulin when maximum sulfonylurea therapy is inadequate can significantly improve glycemic control without promoting increased hypoglycemia or weight gain.

COMMENT BY RALPH R. HALL, MD, FACP

The UKPDS trials continue to shape our care of type 2 diabetes. As Riddle notes in his accompanying editorial "one of the main conclusions the UKPDS investigators themselves have drawn from their findings is that combinations of treatments will routinely be needed for type 2 diabetes."

In this report, sulfonylureas plus insulin resulted in an additional reduction in the HbA1c of 0.5%. Using the data from the UKPDS, this degree of reduction translates to an 11.5% decrease in the risk of diabetic complications.[1]

Riddle also points out that there has been a reluctance in the past to use insulin and sulfonylureas together because of a lack of long-term studies and the "lack of clear physiologic rational" for the use of these 2 agents together.

The weight gain resulting from the combination of the sulfonylurea plus insulin was not statistically greater than the weight gain from the insulin alone. One should note, however, that the weight gain was greater than in the less intensively treated group and the mean gain over the 6-year period was 8.8 lbs. This causes one to wonder what the effects of adding metformin to insulin might be. A previous short-term study found little weight gain over an 8-month period with insulin and metformin and a much lower incidence of hypoglycemia.[2]

Now that we have 2 long-acting sulfonylureas (glipizide and glimepiride) and a truly long-acting basal insulin (glargine) plus metformin and the thiazolidinediones, the potential for even better control of the blood glucose with less weight gain and hypoglycemia is excellent. ■

References

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2. Aviles-Santa L, et al. *Ann Intern Med.* 1999;131: 182-189.

Pharmacology Update

Avinza—A New Long-Acting Morphine Capsule

By William T. Elliott, MD, FACP, and James Chan, PharmD, PhD

The FDA has approved the first "true once-a-day" oral formulation for morphine. Elan Pharmaceuticals is using a new extended-release (ER) system, the spheroidal oral drug absorption system (SODAS) that results in a slow absorption of the drug over 24 hours. It also releases some drug immediately to maintain blood levels. Elan's long-acting morphine preparation will be marketed under the tradename Avinza.

Indications

Morphine sulfate ER is indicated for the relief of moderate-to-severe pain requiring continuous, around-the-clock opioid therapy for an extended period of time.[1]

Dosage

The capsules are intended for once-daily administration. The dose must be titrated individually based on the patient's previous analgesic regimen, degree of opioid tolerance, concurrent medications, and level of analgesic required. It may be taken without regard to meals. The capsules must be swallowed whole and not be chewed, crushed, or dissolved. The contents of the capsule (beads) may be sprinkled on applesauce. The beads must not be chewed or crushed.[1]

Avinza is available as 60-mg, 90-mg, and 120-mg capsules.

Potential Advantages

Morphine sulfate ER (Avinza) is the only "truly" once-daily controlled-release oral morphine formulation. Once-daily administration of morphine sulfate ER (Avinza) produces peak and trough plasma concentrations comparable to morphine oral solution administered 6 times a day.[1] Other controlled-release formulations (MS Contin, Roxanol SR) are typically dosed every 8-12 hours. Kadian is labeled for once- or twice-daily dosing. Avinza can also be sprinkled on apple sauce for those unable to swallow the capsules and these routes of administration are bioequivalent in terms of the rate and extent of absorption.[2]

Potential Disadvantages

Fumaric acid is used as an osmotic agent and local pH modifier in SODAS. Due to the potential renal toxicity of fumaric acid, the daily dose of Avinza must be limited to a maximum of 1600 mg daily.[1]

A potentially fatal dose of morphine may be absorbed if the capsules or the beads are chewed, crushed, or dissolved. Avinza is not intended for as needed (prn) analgesia and is not indicated for postoperative use.[1]

Comments

Morphine sulfate formulated as Avinza comprises immediate release and extended-release components. The latter component uses the SODAS. The capsules contain numerous ammonio-methacrylate copolymer beads of approximately 1 mm in diameter. In the gastrointestinal tract, fluid enters the beads solubilizing the drug that becomes available for absorption. Plasma concentrations are maintained for a 24-hour period. The efficacy of Avinza was demonstrated in a double-blind, placebo-controlled, fixed-dose (30 mg once daily), parallel group trial in 295 patients with moderate-to-severe pain due to osteoarthritis.[1]

Avinza will cost about $6-7 per day.

Clinical Implications

Avinza provides an alternative to other controlled-release morphine formulations. Once-daily dosing offers convenience and may improve compliance. ■

References

1. Avinza Product Information. Ligand Pharmaceuticals. March 2002.
2. Eliot L, et al. *Clin Ther*. 2002;24(2):260-268.

CME Questions

22. Which one of the following statements is *false*?

a. Borderline personality patients account for 10% of a primary care clinic population.
b. Borderline personality patients are predominantly female.
c. Borderline personality patients are more prone to suicidal ideation when compared to a normal population.
d. Borderline personality patients have chronic feelings of emptiness.
e. Borderline personality patients fear abandonment.

23. Barrett's esophagus is encountered in what percent of patients having endoscopy for chronic reflux symptoms?

a. 3-5%
b. 13-20%
c. 23-50%
d. More than 75%
e. Less than 1%

24. Dr. Spechler recommends that patients found to have Barrett's esophagus without dysplasia be screened for development of dysplasia every:

a. year.
b. 2 years.
c. 5 years.
d. 7 years.
e. 10 years.

25. Which one of the following is correct about acute bronchitis?

a. Identifying patients that require antibiotic treatment is easily done.
b. All patients require antibiotic treatment.
c. Patients with no other medical problems never require antibiotic treatment.
d. Written and verbal information regarding course of disease decreases the inappropriate use of antibiotics by patients.
e. All of the above

26. Which one of the following statements is *false*?

a. A 0.5% decrease in the HbA1c reduces diabetic complications 11.5% according to UKPDS data.
b. Major hypoglycemia occurred more often with insulin alone than with insulin plus a sulfonylurea.
c. Adding insulin to sulfonylurea therapy when the fasting blood glucose exceeded 108 mg/dL did not result in significant weight gain.
d. The long-acting sulfonylureas, new insulins, and insulin sensitizers provide the potential for better glucose control than the agents used in the UKPDS study.

27. Which one of the following is *not* true about morphine extended release capsules (Avinza)?

a. It is indicated for the treatment of acute pain.
b. The capsules may be opened and the beads sprinkled in applesauce.
c. If the capsules or beads are chewed, a lethal dose of morphine may be absorbed.
d. It may be taken without regard to meals.

By Louis Kuritzky, MD

Improvement in Spine Bone Density and Reduction in Risk of Vertebral Fractures During Treatment with Antiresorptive Drugs

There is an inverse and linear relationship between bone mineral density (BMD) and fracture risk in women. Investigators have queried whether BMD fully explains the fracture reduction benefits seen with osteoporosis therapies, since it appears that fracture reduction benefits are substantial with small incremental improvements in BMD. It is unclear whether other factors, such as improved bone integrity or architecture, might also be responsible for reduced fracture risk.

By meta-analysis of 12 osteoporosis treatment trials that used antiresorptive therapies, Cummings and colleagues measured the relationship between incremental change in BMD and incident vertebral fractures. This relationship was compared with data from the placebo arm of the Fracture Intervention trial, which demonstrated a 1.5-fold increase in vertebral fracture risk for each 0.10 decline in BMD, which establishes a baseline for the relationship between "natural" changes in BMD and subsequent fracture.

Based on this analysis, Cummings et al calculate that increases in BMD by antiresorptive treatments explain only a small portion of the reduced fracture risk. For instance, the 4% improvement in BMD seen in 1 3-year trial of alendronate would only explain 16% of the reduction in fractures. Although the improvements in BMD induced by antiresorptive treatment are important, other mechanisms not apparent on BMD must play a role in fracture reduction. ■

Cummings SR, et al. Am J Med. 2002; 112:281-289.

The Relationship Between Insomnia and Health-Related QOL in Patients with Chronic Illness

In persons who suffer compelling chronic health conditions such as congestive heart failure, diabetes mellitus, and depression, it is easy for complaints like insomnia to be misperceived as modest in affecting overall quality of life (QOL). Indeed, comorbidities may complicate sleep quality, and worsen primary sleep disturbances. In this study, Katz and McHorney sought to discern whether, in patients suffering other chronic conditions, insomnia is independently detrimental to health-related QOL, and to quantify the effect of insomnia upon QOL in comparison with the effect of other chronic conditions.

The study population was comprised of patients from outpatient settings who were administered a depression scale, and the SF-36 QOL assessment tool. Inclusion criteria required the patient to also have either hypertension, diabetes, congestive heart failure, recent MI, or depression.

Sixteen percent of study subjects had severe insomnia, and 34% had mild. As severity of insomnia increased, so did decrements in QOL. Insomnia was independently associated with impaired QOL, even after adjustment for competing conditions (including depression). Although insomnia had diverse effect across the SF-36 parameters, certain select categories showed prominent impact. For instance, in persons with severe insomnia, the decline in physical function score was of comparable magnitude to the effect of congestive heart failure. Addressing insomnia as an independent morbidity, even in persons with major competing chronic medical conditions, may have a valuable effect on QOL. ■

Katz DA, McHorney CA. J Fam Pract. 2002;51:229-235.

Effects of Calcium Supplementation on Serum Lipids in Normal Older Women

Calcium supplementation (CAS) is generally recommended for adult women based on the fact that osteoporosis (OSPS) may be prevented or ameliorated by enhanced dietary calcium. Previously, some data have shown that oral CAS tends to bind intestinal fatty acids and bile acids, resulting in reduced fat absorption, and subsequent favorable effect on HDL and LDL, but other studies have failed to confirm this phenomenon. Reid and colleagues report on the first randomized controlled trial to study the issue in normal postmenopausal women.

Women (n = 223) had to be free of OSPS at entry, postmenopausal for > 5 years, older than age 55, and not long-term users of HRT or other treatments for OSPS. Women were randomly assigned to placebo or 400 mg CAS QAM and 600 mg QPM (before meals) for 1 year. Calcium was administered as calcium citrate. Outcomes measured were changes in fasting HDL, triglycerides, and LDL (calculated), measured at baseline, 2, 6, and 12 months.

At 1 year, the most substantial effect of CAS upon lipids was a 7% increase in HDL compared with baseline. There was a trend toward reduced LDL, and a statistically significant improvement in HDL/LDL ratio. It remains to be explored whether men might enjoy similar benefits from CAS. ■

Reid IR, et al. Am J Med. 2002;112: 343-347.

Pulmonary Pattern and What Else?

By Ken Grauer, MD

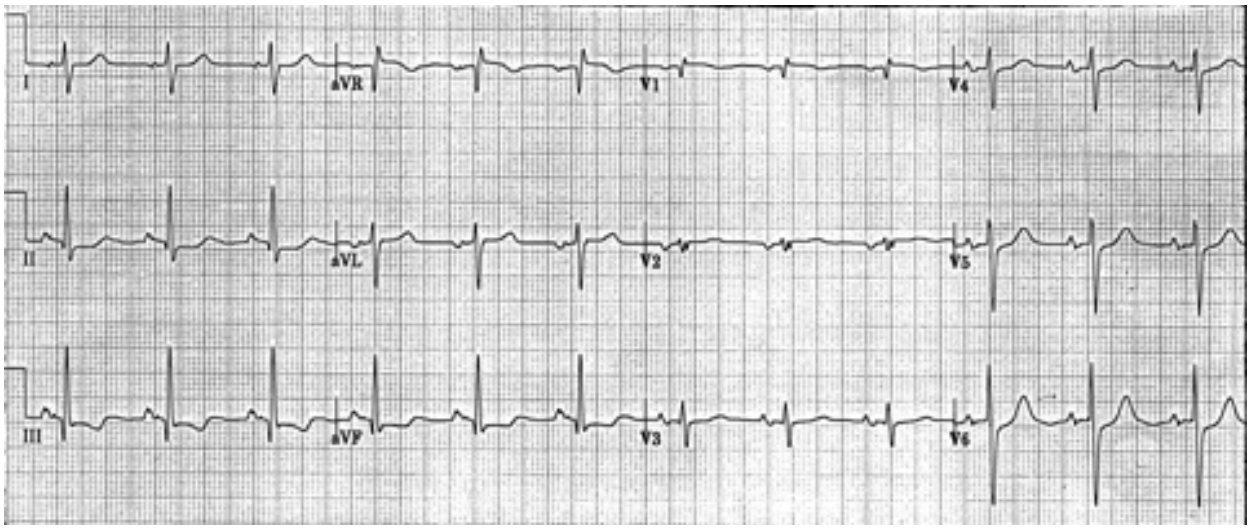

Figure. 12-lead ECG obtained from a 78-year-old man with long-standing pulmonary disease and new-onset heart failure.

Clinical Scenario: The ECG in the Figure was obtained from a 78-year-old man with long-standing pulmonary disease and new-onset heart failure. Based on the low voltage in leads V_1, V_2, V_3, the rightward frontal plane axis, incomplete right bundle branch block (RBBB), and persistent precordial S waves, the computer interpreted the overall pattern as consistent with pulmonary disease. *What else* should be added to your interpretation?

Interpretation: The ECG diagnosis of right ventricular hypertrophy (RVH) in adults is often quite difficult to make. This is because the electrocardiogram represents a balance of electrical forces between the left and right ventricles at any given instant in time. The much larger and thicker left ventricle usually accounts for a predominance of these electrical forces, even when there is clinical evidence of mild-to-moderate pulmonary disease. In contrast to what occurs in children, in whom much lesser degrees of RVH are needed to produce a predominance of right-sided forces (seen on ECG as a dominant R wave in lead V_1), it is only with more severe degrees of RVH and/or pulmonary hypertension that definite ECG criteria for this diagnosis are usually seen. Suspicion for long-standing pulmonary disease (with possible RVH/pulmonary hypertension) should therefore be raised by the combined ECG findings of rightward axis, incomplete RBBB, low voltage in several precordial leads, and persistent precordial S waves in leads V_4, V_5, V_6—even in the absence of a tall R wave in lead V_1 and ECG criteria for right atrial enlargement. Although the ST-T wave changes in the inferior leads of the tracing seen here may indeed reflect right-sided "strain" (from RVH), it is important to emphasize that these changes could also reflect ischemia. This point is especially relevant in this patient with new-onset heart failure. However, an even more worrisome finding on this tracing is the subtle but definitely present coved ST segment elevation in lead V_1. The patient in this case died from acute myocardial infarction. ECG changes from long-standing pulmonary disease were felt to "mask" ECG evidence of the large acute infarction that was evolving with the exception of the above noted subtle ST segment changes in the inferior leads and in lead V_1. ■

In Future Issues:

***Helicobacter pylori* and Dyspepsia: Physicians' Attitudes, Clinical Practice, and Prescribing Habits**