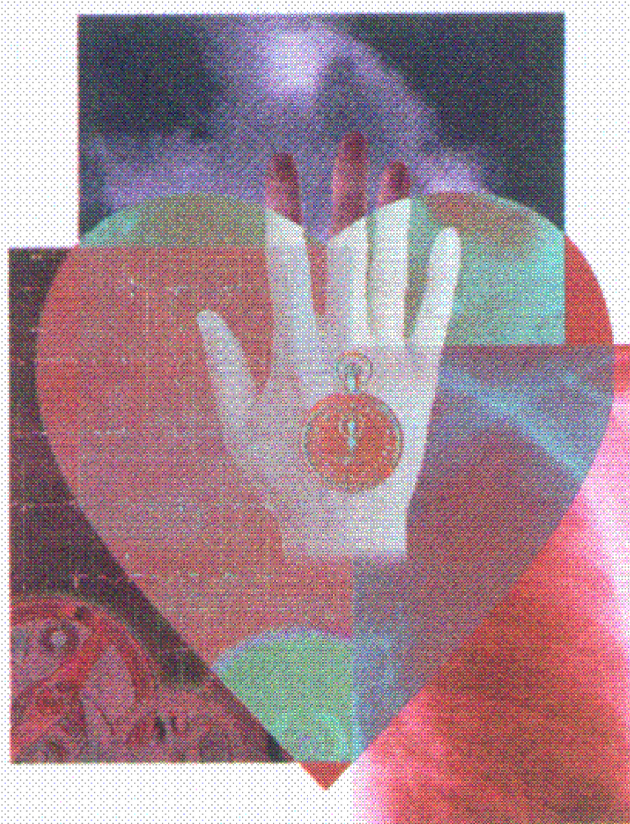
special report

UNDER ATTACK

If heart disease kills more women than any other ailment, how come nobody ever talks about it?

BY KATHLEEN McAULIFFE



WOW! THOUGHT DANIELLE Peterson*, What the hell is going on in my body? The forty-nine-year-old New York marketing executive was in the middle of a business meeting when "it was as if there was this sudden pressure drop inside me." Later that evening her left arm began to tingle and grow numb, and her chest was gripped by pain.

Fearful she was on the verge of a heart attack, the next day she went to see her primary doctor, a pulmonary specialist who had long treated her for asthma. Even though she told him that she was experiencing cardiac symptoms, she had to wait an hour and a half while he saw other patients. Then, after performing an electrocardiogram, the doctor attributed her symptoms to a virus. "Go home and get some rest," he urged.

At 5:45 the following morning, Peterson bolted up in bed, racked by pain. "I'm having a heart attack!" she screamed to her husband. He rushed her to the emergency room of a nearby hospital, but once again the doctor did not believe her. "You've probably got shingles," he said. Nearly a half-hour later, another physician recognized the first doctor's error and raced to administer a clot-busting drug.

Peterson survived—but the delay in proper diagnosis led to irreversible heart damage: Ten percent of the heart muscle died. The path to emotional recovery has also been strewn with obstacles. Terrified of having another heart attack, Peterson looked for a support group of female heart patients. But neither her cardiologist nor the American Heart Association could track down one in all of Manhattan.

Peterson's experience would seem to indicate that heart disease in women is as rare as hen's teeth. In fact, everything about her case—including her reluctance to be identified by her real name—is all too typical.

Coronary-artery disease is the number-one killer of U.S. women, claiming 250,000 lives each year. Although heart disease is preventable if caught early, too often its onset goes undetected. It is frightening to learn that a woman's first clue about plaque deposits accumulating in the coronary arteries could be a full-blown heart attack (or stroke if the blockage occurs in the brain). Two thirds of the women who die of a heart attack have had no previous symptoms. Although

*Name has been changed.

MARGARET RIEGEL

women over age sixty-five are most vulnerable to the disease, one out of every nine U.S. women aged forty-five to sixty-four shows evidence of coronary-artery disease. Indeed, heart disease kills twice as many women in this age group as breast cancer—the disease we dread most.

African-American women are especially at risk. Heart disease is 34 percent more common among them than among Caucasian women, and they are more likely to die of a heart attack before menopause. Medical researchers suspect an interplay of genetics and socioeconomic factors such as diet contributes to their elevated risk.

Despite these statistics, numerous studies show that doctors are less likely to screen women than men for the risk of heart disease; they routinely overlook or discount women's symptoms, and often order less aggressive treatment for female patients than for males. Even paramedics have been slow to recognize and treat women in cardiac distress.

When Judy Mingram, a computer-software sales representative in Los Angeles, suffered a massive heart attack at age forty, the paramedics who responded to her call spent thirty-five minutes urging her to admit to cocaine use. Then, even though she was vomiting and barely conscious, they made her walk to the ambulance. Finally at the hospital, she went into cardiac arrest twice and had to be jolted back to life.

"We hear this kind of story from female patients all the time," says Nancy Davenport, M.D., a cardiologist on the advisory board for women and heart disease at Washington Hospital Center, in Washington, D.C. "A man with cardiac symptoms is taken seriously—a woman is likely to be told she's having a panic attack."

So why aren't women up in arms about the disparity in their care? Why aren't they marching on Washington to focus attention on heart disease in women? Why are there no funding drives to support research on the number-one killer of women?

"Very simply, few women see heart disease as part of the spectrum of illnesses they might get," says Debra R. Judelson, M.D., medical director of the Women's Heart Institute, in Beverly Hills, California. "Say the words 'heart disease' and most women think of their husbands—not themselves." Indeed, a 1995 Gallup poll found that four out of five women aged forty-five to seventy-five were not aware that heart disease is the leading cause of death in their age group. What's worse, one third of the primary-care physicians surveyed didn't know either. In another survey of primary-care doctors, conducted by Washington Hospital Center, two thirds of the physicians reported that the warning signs and detection of heart disease are the same in both sexes. In reality, women differ from men in their symptoms, diagnosis and response to therapy.

Last year, the American Heart Association launched a campaign aimed at educating women and their doctors about prevention of the disease in women aged twenty-five to fifty-four. The rallying cry, Take Wellness to Heart, appears in a series of ads this fall. But so far, the campaign lacks the clout and luster of the breast-cancer movement, because in the parlance of Madison Avenue, the issue just isn't "sexy." Explains Marianne Legato, M.D., professor of clinical medicine and director of the Partnership for Women's Health at Columbia University College of Physicians and Surgeons, in New York City, "Women value their breasts, beauty and reproductive capacity foremost because society has mainly appreciated them for bearing and raising children. That is crazy in the context of women now spending one-third of their lives in their post-menopausal years."

Often female victims of heart disease are reluctant even to come forward. They may feel partly to blame for their illness, because they smoke, eat a high-fat diet or don't exercise. Or they fear the disease earmarks them as old and sickly. "It's bad for business," says one middle-aged victim, explaining her desire for anonymity.

Educational efforts have been hampered further by the lack of a celebrity spokeswoman to draw attention to the issue. While the breast-cancer movement can point to Betty Ford, Olivia Newton-John and Carly Simon, the faces of heart disease are still invisible.

"Believe me, they're around,"

SYMPTOMS YOU SHOULD NEVER IGNORE

A so-called "silent killer," coronary-artery disease can strike when a woman least expects it. According to the American Heart Association, you should be alert to these classic warning signs of heart attack:

- Uncomfortable pressure, fullness, squeezing or pain in the center of the chest, upper abdomen or upper back that lasts more than a few minutes, or goes away and comes back.
- Pain that spreads to the shoulders, neck or arms.
- Chest discomfort with light-headedness, fainting, sweating, nausea or shortness of breath.

Women might have other, less-common warning signs:

- Stomach pain.
- Unexplained anxiety, weakness or fatigue.
- Palpitations, cold sweats or paleness.

If you have any of these symptoms, especially if they're exacerbated by physical exertion, make a beeline for the nearest emergency room. New treatments, delivered promptly, can reduce or prevent damage from the attack.

MetroGel (metronidazole topical gel) Topical Gel, 0.75% | **MetroCream**™ (metronidazole topical cream) Topical Cream, 0.75%

FOR TOPICAL USE ONLY
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Brief Summary

INDICATIONS AND USAGE:
METROGEL Topical Gel and METROCREAM Topical Cream are indicated for topical application in the treatment of inflammatory papules and pustules of rosacea.

CONTRAINDICATIONS:
METROGEL Topical Gel and METROCREAM Topical Cream are contraindicated in individuals with a history of hypersensitivity to metronidazole, parabens, or other ingredients of the formulations.

PRECAUTIONS:
General:
Topical metronidazole has been reported to cause tearing of the eyes. Therefore, contact with the eyes should be avoided. If a reaction suggesting local irritation occurs, patients should be directed to use the medication less frequently or discontinue use. Metronidazole is a nitroimidazole and should be used with care in patients with evidence of or history of blood dyscrasia.

Information for patients:
These medications are to be used as directed by the physician. They are for external use only. Avoid contact with the eyes.

Drug interactions:
Oral metronidazole has been reported to potentiate the anticoagulant effect of warfarin and coumarin anticoagulants, resulting in a prolongation of prothrombin time. The effect of topical metronidazole on prothrombin time is not known.

Carcinogenesis, mutagenesis, impairment of fertility:
Metronidazole has shown evidence of carcinogenic activity in a number of studies involving chronic, oral administration in mice and rats but not in studies involving hamsters.

Metronidazole has shown evidence of mutagenic activity in several *in vitro* bacterial assay systems. In addition, a dose-response increase in the frequency of micronuclei was observed in mice after intraperitoneal injections, and an increase in chromosome aberrations has been reported in patients with Crohn's disease who were treated with 200-1200 mg/day of metronidazole for 1 to 24 months. However, no excess chromosomal aberrations in circulating human lymphocytes have been observed in patients treated for 8 months.

Pregnancy: *Teratogenic effects: Pregnancy category B*
There are no adequate and well-controlled studies with the use of METROGEL Topical Gel or METROCREAM Topical Cream in pregnant women. Metronidazole crosses the placental barrier and enters the fetal circulation rapidly. No fetotoxicity was observed after oral metronidazole in rats or mice. However, because animal reproduction studies are not always predictive of human response and since metronidazole has been shown to be a carcinogen in some rodents, this drug should be used during pregnancy only if clearly needed.

Nursing mothers:
After oral administration, metronidazole is secreted in breast milk in concentrations similar to those found in the plasma. Even though blood levels with topically applied metronidazole are significantly lower than those achieved after oral administration, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

Pediatric use:
Safety and effectiveness in pediatric patients have not been established.

ADVERSE REACTIONS:
In controlled clinical trials, the total incidence of adverse reactions associated with the use of METROCREAM Topical Cream was approximately 10%. Skin discomfort (burning and stinging) was the most frequently reported event followed by erythema, skin irritation, pruritus, and worsening of rosacea. All individual events occurred in less than 3% of patients.

The following adverse experiences have been reported with the topical use of metronidazole: burning, skin irritation, dryness, transient redness, metallic taste, tingling or numbness of extremities, and nausea.

DOSAGE AND ADMINISTRATION:
Apply and rub in a thin film of METROGEL Topical Gel or thin layer of METROCREAM Topical Cream twice daily, morning and evening, to entire affected areas after washing with a mild cleanser.

HOW SUPPLIED:
METROGEL Topical Gel (0.75% metronidazole) is supplied in a 1 oz. (28.4 g) aluminum tube - **NDC** 0299-3835-28 and a 45 g aluminum tube - **NDC** 0299-3835-45.

METROCREAM Topical Cream (0.75% metronidazole) is supplied in a 45 g aluminum tube - **NDC** 0299-3836-45.

Storage conditions: STORE AT CONTROLLED ROOM TEMPERATURE: 59° to 86°F (15° to 30°C).

Caution: Federal law prohibits dispensing without a prescription.

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July 1996

says cardiologist Judelson. "Since I'm based in Beverly Hills, I know of many famous women with heart disease—but none want to be spokeswomen." Why? Because of the perceived age stigma, she reports, and the fact that the studios will not insure ailing performers, who they fear might drop dead of a heart attack before a picture is completed.

Whatever the reasons for women's blindness to the peril of heart disease, the ignorance of numerous doctors clearly isn't helping matters. Why do so many of them still lag in their understanding of women's heart problems?

Past training practices are a big part of the problem, according to Susan Blumenthal, M.D., clinical professor of obstetrics and gynecology at George Washington University Medical Center. "When I went to medical school, we learned about heart disease in the hundred-eighty-pound male," says Blumenthal. And until recently, she points out, women were not included in many research trials because they have menstrual cycles and might get pregnant. As a result, drugs and procedures for treating heart disease were keyed to men. In 1993, Congress passed a law that requires women be included in clinical trials where appropriate. These studies are just now shedding light on the different ways heart disease affects men and women.

In general, women have smaller hearts, and their arteries are smaller and narrower. In addition, the interplay of anatomy and hormones influences their cardiovascular systems in unique ways.

Women don't always suffer crushing chest pain, the classic symptom of heart attack in men. About 15 to 20 percent of women having a heart attack complain of pain high in the abdomen, shortness of breath and profuse sweating, or even fatigue or indigestion. Such diffuse symptoms can be easily attributed to heartburn or that favorite medical culprit—mental stress.

Sex stereotyping can further contribute to misdiagnoses, suggests a study conducted last year by psychologist Gabrielle Chiaramonte, of the State University of New York at Stony Brook. In the study, medical students were given case reports on a forty-eight-year-old man and a fifty-eight-year-old woman (by age, equal in their risk of heart disease). Both patients were described as having identical cardiac symptoms, but half of the profiles mentioned the patient was experiencing stress at work. By and large, the medical students—both men and women—referred the anxious male patient to a cardiologist, the anxious female patient to a psychologist.

Sex also plays an important role in the evaluation of cardiac risk factors. Menopause, which deprives the body of estrogen and its heart-protective benefits, is an obvious risk factor. Others—elevated cholesterol, smoking, high blood pressure, diabetes and obesity—are shared by the sexes but can differ in subtle and sometimes dramatic ways.

For women the total cholesterol level is not as strong an indicator of heart disease as it is for men. The level of a woman's HDL, or good cholesterol, is most important, says Mary Ann Malloy, M.D., a cardiologist at Loyola University Medical Center, in Chicago. National guidelines define an HDL level below thirty-five as unhealthy. "That's appropriate for a male," says Malloy, "but ideally, it should be over forty-five for a female—the higher the better."

Smoking, everyone knows, is bad for the heart. But on average, women who smoke suffer heart attacks nineteen years earlier than those who don't, while male smokers typically have heart attacks seven years earlier than nonsmokers.

Diabetes has also emerged as a much stronger cardiovascular risk factor for women. Diabetic women have three to four times the risk of coronary-artery disease and are twice as likely to suffer a heart attack. And although excess weight has long been linked to heart disease in both sexes (especially when it accumulates around the waist), apple-shaped women often suffer a cluster of symptoms, notably high blood pressure, low HDL, and insulin resistance (a precursor of diabetes and a contributor to plaque formation).

Clearly, an awareness of predisposing

factors is the key to early detection of heart disease in women. But many doctors aren't even screening their female patients for the most salient risk factors.

Nancy Loving, a fifty-two-year-old public-relations executive in Washington, D.C., learned this the hard way. "No one ever told me I was at risk for heart disease—not my gynecologist, not my general practitioner, not my internist," she says. Yet she'd been smoking most of her life, was a couch potato, carried twenty-five extra pounds of weight and had a family history of heart disease. And as she eventually discovered, her cholesterol was a sky-high 313. The first warning was a heart attack at age forty-eight.

That jolt spurred Loving into action. She joined a health club, lost weight, quit cigarettes, and through a combination of drugs and dietary changes has lowered her cholesterol by more than a hundred points. "I've never felt better," she reports. "But it shouldn't have taken a heart attack to make me shape up."

When a doctor does suspect coronary-artery disease, the cheapest and most widely used screening tool is the treadmill stress test. It is, however, less accurate for women. Because roughly 10 percent of women have false positives (compared with 5 percent of men), doctors are often inclined to discount the results, reports Elizabeth Ross, M.D., attending cardiologist at the Washington Hospital Center and author of *Healing the Female Heart*.

More accurate exams for women, says Ross, include the stress echocardiogram, which uses ultrasound to produce an image of the heart, and a thallium scan or nuclear imaging test, which maps the organ using radioactive particles. Most accurate of all is angiography, in which blockages are detected by snaking a thin tube through the coronary arteries and injecting X-ray dye.

Due to deficiencies in early detection and diagnosis of heart disease, a woman may be less aggressively treated than a man. Fewer women are given clot-busting drugs or undergo bypass surgery or balloon angioplasty—three aggressive techniques for restoring blood flow to ailing hearts—often because they're older and frailer than male patients. What's more, many women arrive at an emergency room too late to benefit from clot-busting drugs, which must be administered within six to eight hours of a heart attack. A Scottish study, published last year in the American Heart Association journal *Circulation*, provides a fascinating clue to why this is true: Women having heart attacks often prefer to call their physicians first; men race straight to the emergency room. That delay is costing them dearly. Because women arrive later and sicker for treatment, they are more likely than men to need emergency bypass surgery, riskier than a planned operation.

THE ANNUAL CHECKUP

A proper examination, says Marianne Legato of Columbia University, should touch all of these bases:

- A complete blood workup, with cholesterol broken down into HDL and LDL, and determination of triglycerides.
- Analysis of the heart's electrical activity by electrocardiogram. An EKG is useful in detecting abnormalities that can signal arterial blockages and other heart problems. If the EKG suggests potential heart disease, or if there are two or more risk factors (especially if one is a low HDL score), the patient should be referred to a cardiologist.
- Discussion of specific preventive steps—from exercise and other lifestyle changes to cholesterol-lowering drugs. Hormone replacement therapy (HRT) is especially important, since the latest research shows that estrogen not only improves the cholesterol profile of menopausal women, it also keeps arteries more supple and helps prevent new plaque formation. The new synthetic estrogens may offer cardiac benefits, with less or no increased risk of breast cancer.
- Discussion of the latest research exploring whether taking a baby aspirin daily will protect women who are at high risk of a heart attack. And of still other studies that suggest vitamins E and C, folic acid and soy products fortify women's hearts.

Still another reason that women receive less aggressive treatment is that they themselves decline it. "Men take the attitude, 'I'm broken, now fix me,'" reports Jay Cohn, M.D., a cardiologist at the University of Minnesota Medical School, in Minneapolis, "whereas women often prefer prescription drugs to avoid surgery. They see it as a gentler approach." Ross concurs, noting that many women will tolerate severely restricted lives rather than submit to an invasive procedure. But the "gentler" route women choose, she says, could also stem from failure to appreciate their peril. "They can't believe they'll die of heart disease—a man, yes, but not them."

What can women do to prevent heart disease and improve their care? First, they need to recognize their risks and to be alert to the symptoms. Just as important, women should get an annual physical and be thoroughly screened for risk factors. "Don't entrust your heart care to a gynecologist," advises Columbia's Legato. "That's like a man leaving his primary care to a sports physician." In her opinion, it's best to choose a doctor who is board certified in either internal medicine or family practice. And finally, women can join the effort to improve treatment for heart disease by volunteering to take part in clinical trials held around the country. (For information or to join our discussion group on heart disease, log on www.lhj.com; click on the **more** button.)

Women concerned about heart disease should take a few lessons from their vocal sisters in the breast-cancer movement. As these feisty activists have shown, a woman who wants topflight care must educate herself and be a powerful advocate for her own treatment. She and others like her must organize into a coalition, for mutual support and for the strength to make politicians and the medical establishment aware of their special needs. Above all, they must be prepared to step out of the shadows and be counted.

If numbers speak, women with heart disease will be heard. ■

Kathleen McAuliffe's health and medical writing has appeared in The New York Times, Smithsonian, and Atlantic Monthly.