



Epidemiology, Assessment, and Diagnosis of Migraine

Moderated by **Richard B. Lipton, MD¹**

Discussants: **Dawn C. Buse, PhD¹; Stephen Silberstein, MD²; Tobias Kurth, MD³**

DR. LIPTON: My name is Richard Lipton. I'm a neurologist and epidemiologist at the Albert Einstein College of Medicine. I also direct the Montefiore Headache Center. This is a medical roundtable on the epidemiology, assessment, and diagnosis of migraine.

Joining me is an outstanding faculty. Dr. Stephen Silberstein is a neurologist who directs the Jefferson Headache Center and is a Professor of Neurology at Thomas Jefferson University.

DR. KURTH: I am Tobias Kurth, Director of Research at INSERM, the French National Institute of Health and Medical Research. I am also affiliated with the University of Bordeaux, and I am Adjunct Associate Professor of Epidemiology at the Harvard School of Public Health.

DR. BUSE: I am Dawn Buse, an Associate Professor of Neurology at the Albert Einstein College of Medicine, Assistant Professor in the Clinical Health Psychology Doctoral Program at the Ferkauf Graduate School of Psychology of Yeshiva University, and Director of Behavioral Medicine at the Montefiore Headache Center in Bronx, NY.

DR. LIPTON: Today, we will be discussing issues in epidemiology, assessment, and diagnosis of migraine. Migraine and headache disorders, in general, are one of the

most common reasons that people seek help for, in primary care settings; therefore, this is a topic of great importance for primary care doctors. The first section of this talk will focus on the diagnosis of migraine. Dr. Silberstein, how do you approach diagnosing a patient with headaches?

DR. SILBERSTEIN: If a patient comes to a physician's office complaining of recurrent moderate-to-severe headaches, his/her condition should be considered as migraine until proven otherwise. Clearly, there are certain features, but the criteria are that if the patient has a moderate headache associated with features such as one-sided, throbbing, headache aggravated by movement, nausea, vomiting, or sensitivity to light and sound, then it is clearly a migraine. The number of attacks can be used to differentiate migraine from a migraine mimic. In general, I consider

ABSTRACT

The discussion focused primarily on: 1) The diagnosis of migraine; 2) features of migraine versus benign headaches; 3) neuroimaging; 4) migraine with or without aura; 5) episodic versus chronic migraine; 6) patient assessment tools; 7) treatment plans; 8) disability and impact on quality of life; 9) Migraine Disability Assessment Scale (MIDAS); 10) relationship with cardiovascular disease and stroke; 11) psychiatric comorbidities; 12) oral contraceptives; 13) associated risk factors; and 14) addressing patient concerns. *Med Roundtable Gen Med Ed.* 2014;1(3):202-211.

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From the Albert Einstein College of Medicine, and Montefiore Headache Center, Bronx, NY¹; Thomas Jefferson University and Jefferson Headache Center, Philadelphia, PA²; The French National Institute of Health and Medical Research (Inserm), Unit 708—Neuroepidemiology, and the University of Bordeaux, Bordeaux, France³

Address for correspondence: Richard B. Lipton, MD, Albert Einstein College of Medicine, Louis and Dora Rousso Building, 1165 Morris Park Avenue, Room 332, Bronx, NY 10461
E-mail: richard.lipton@einstein.yu.edu

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it a migraine unless there's a reason to think otherwise or unless you see so-called warning signs.

DR. LIPTON: Can you tell us about the situations where secondary headaches may be a problem?

DR. SILBERSTEIN: We, as a group, have developed something called the SNOOP. This is our mnemonic for worrisome headaches. First, the "S" refers to systemic symptoms such as fever or weight loss. The secondary risk factor is a new headache in a person with HIV or systemic cancer. The "N" stands for neurological symptoms or signs that cannot be explained by the aura of migraine such as confusion or alteration of consciousness. The "O" stands for a sudden onset. A sudden onset of headache should be taken as a serious neurological event until proven otherwise.

The second "O" stands for older. If there is a progressive onset of headache in an older patient, particularly a middle-aged one, one should always be concerned about a secondary headache. The "P" stands for previous headaches. Change in the attack frequency is a clinical feature that we worry about. These conditions indicate that an underlying condition may possibly be serious.

DR. LIPTON: Can you tell us about some signs that might reassure you that there is no serious cause of headache?

DR. SILBERSTEIN: The more the current headache is similar to a prior headache, the more likely that it is not serious. If a headache predictably occurs around menstruation or

ovulation, it's a sign that it is not serious. Other additional features of migraine that make us think it's a benign headache disorder and not something else, include hunger or anger; alcohol consumption; insufficient sleep; family history of headaches; or so-called childhood precursors of migraine, particularly motion sickness or vertigo.

DR. LIPTON: Dr. Kurth, do you believe that everyone who presents with headache needs a neuroimaging procedure to exclude brain tumors or other secondary disorders?

DR. KURTH: The quick answer is no, but of course, it's more complex as you go into the details—there

are several aspects that need to be considered. Most importantly, not everybody in the population with a migraine needs neuroimaging, but that depends on detailed clinical symptoms, i.e., whether there's any indication that the migraine is caused by another illness or there's a clear change in the aura symptoms or recurrence of migraine with atypical features. We often see migraine reoccurring in the elderly and are suspicious of an underlying disease such as a vascular condition or maybe a tumor, in very rare cases, that can trigger migraine reoccurrence. In such cases, we should perform neuroimaging to rule out underlying diseases. However, if we're talking about a patient with a typical migraine, typical aura, or typical age for a patient with migraine, neuroimaging studies are certainly not indicated.

There is an increasing number of studies showing that certain lesions in the brain, such as hyperintensities in the white matter, are more common in patients with migraine, but it remains unclear what these lesions mean for patients and what their consequences are. Therefore, there's no need to perform an imaging study to potentially identify these brain lesions in patients with migraine.

DR. SILBERSTEIN: I do.

DR. LIPTON: Dr. Silberstein, how do you diagnose migraine and its most important subsets?

DR. SILBERSTEIN: Migraine is more than a headache. When talking about migraine, we need to consider other

aspects like the premonitory features, the aura, and the headache itself. These aspects really help us with subtypes. For migraine headache, there are criteria for making a diagnosis.

To make the diagnosis of migraine without aura, 5 attacks have to have occurred and need to be associated with 2 of the following 4 features: one-sidedness, pulsating or throbbing, aggravation of the headache due to movement, or moderate-to-severe intensity.

To summarize, if you have a one-sided pulsating headache with nausea, that's a migraine. Since the ICHD-II criteria¹ require that the headache is not attributed to another disorder, we look at the absence of red flags to diagnose migraine. If a red flag is present, we

"There's a distinction between chronic daily headache and chronic migraine."

Richard B. Lipton

need to investigate the patient's headache further. That is the headache of migraine without aura.

There is another variety of migraine called migraine with aura. The aura refers to focal neurological symptoms that precede or accompany the headache of migraine. The most common aura is visual (flashing lights or loss of vision). Some people can have problems with pins and needles or mild weakness. To make the diagnosis, a patient has to have unilateral symptoms that are often both positive and negative. What I mean by that is that there are both flashing lights and loss of vision. They usually develop over 5 min, and they usually continue for 5 to 60 min. That helps differentiate the aura of migraine from a focal seizure or a transient ischemic at-

tack. If the aura is followed by a headache, then it is classified as a migraine aura with headache. The migraine aura can occur alone, particularly in the elderly.

The second type of distinction is between episodic and chronic migraine. When a person with migraine has multiple attacks with headaches for 14 or fewer total days per month, we call it episodic migraine. When a person with migraine has a headache for 15 or more days a month, we call it chronic migraine.¹

The difference between episodic and chronic migraine is the frequency of the attack. Migraine with or without aura is based on the presence of the aura of migraine.

DR. LIPTON: Dr. Silberstein, what tools do you use in practice to support your diagnosis?

DR. SILBERSTEIN: When you see a patient for the first time, the more information you have, the better it is for diagnosis. If a patient, for example, brought in a diary or calendar delineating their attacks or information from another physician where they filled out a questionnaire or even a specific migraine information questionnaire, you are more equipped to, first, support the diagnosis, and second, identify the triggers and find out what medications they may or may not have

of life. It's also useful to assess medical and psychiatric comorbidities. Migraine is comorbid with many medical and psychiatric conditions, including depression and anxiety. In some cases, migraine may be more severe, chronic, and treatment-refractory when associated with certain conditions. Inquire specifically about both pharmacologic treatments, which may be acute or preventive, and nonpharmacologic treatments, including behavioral/psychological; physical; lifestyle, such as asking about sleep habits and problems, exercise, and activity; and other nonpharmacologic therapies. In addition, asking the patient specifically about nutraceuticals, vitamins, and herbs is vital because if health-care providers (HCPs) do not ask these questions, patients may not voluntarily offer this

information.

DR. LIPTON: Dr. Buse, why is it important for primary care clinicians to assess disability and life impact? Are there tools that you might recommend for this?

DR. BUSE: It has been empirically proven that asking a patient about the impact of headaches on a patient's life leads to improvement in the accuracy of diagnosis, better understanding of the true scope and burden of illness, development of more comprehensive and effective treatment plans, and better communication and rapport between the patient and HCP.^{2,3}

Validated instruments include the Migraine Disability Assessment Scale

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Dawn C. Buse

tried in the past. We can figure out what will work and what won't work with them.

DR. LIPTON: Let's move on to a discussion of assessment. Dr. Buse, having diagnosed migraine, what are the most important features to assess before formulating a treatment plan?

DR. BUSE: It is vital to consider the impact of headache on all aspects of a patient's life, including occupational or academic functioning and family, social, and personal arenas. These areas can be assessed by simply asking the patient, "How are your headaches affecting your life?" In addition, clinically validated instruments are available to assess headache-related disability, headache impact, and quality

(MIDAS) for headache-related disability,⁴ which is available for use free of charge; the Headache Impact Test 6 (HIT-6) for headache impact⁵; and several disease-specific and general instruments that measure health-related quality of life.⁶

Research has shown that simply asking open-ended questions such as “How do your headaches affect your life?” can provide a wealth of useful information; improve HCP-patient rapport; and, surprisingly, at the same time, slightly decrease the total time of a visit.^{5,7} The American Migraine Communications Study⁸ videotaped 60 patient-provider interactions during office visits. They found that an average migraine office visit lasted 12 min, and that HCPs asked an average of 13 closed-ended questions, of which more than 90% were closed-ended or answered with short responses.

Questions focused primarily on the frequency of attacks and severity of headache symptoms, triggers, and other features, but HCPs rarely inquired about headache-related disability or quality of life. There was a lack of agreement between patients and HCPs about the frequency and severity of headache when assessed during separate follow-up interviews. They also missed opportunities for creating effective treatment plans, including using preventive medications.

In response to the communication issues observed in the American Migraine Communication Study-I

(AMCS-I), researchers developed and tested an educational intervention for improving communication during office visits. As part of the ACMS-II, they taught HCPs 2 communication strategies: use of open-ended questions and the “ask-tell-ask” strategy.⁹ They advised HCPs to use the “ask-tell-ask” strategy to clarify the number of headache days and distinguish the number of headache days from headache attacks by asking the patient “How many headache attacks have you had in the last month?” and “How many days did each attack last?” The patient would reply, at which point the HCP would assimilate

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and rephrase what was said back to the patient, for example “So that means you had X number of headache days in the past month,” He or she would then provide the patient with the opportunity to agree or clarify the statement. Then, the HCP would follow-up with one more opportunity to ask whether the patient had any more questions.

The “ask-tell-ask” is a simple and precise strategy for assessing the number of headache days in a month, which is needed to provide an accurate diagnosis of several conditions, including chronic migraine. However, it can be adapted for use in almost any type of medical communication.

DR. LIPTON: You also mentioned the importance of assessing psychiatric comorbidities. Why is this important and is there a specific approach you might recommend for that?

DR. BUSE: Assessing psychiatric comorbidities is important for several reasons. Once a diagnosis of migraine is established, an HCP should also have a heightened index of suspicion for psychiatric comorbidities,¹⁰ especially in the case of chronic migraine.¹¹ Psychiatric comorbidities with migraine have been associated with poor treatment outcomes, treatment refractoriness, and problems with adherence. For example, patients with depressive symptoms demonstrate a poorer response to both pharmacologic and behavioral interventions.^{12,13} Psychiatric comorbidities are

also related to poor quality of life¹⁴ and the potential for serious consequences including suicide.¹⁵ There is also evidence that several psychiatric conditions are risk factors for new-onset chronic migraine or transformation from episodic to chronic migraine.^{16,17}

The existence of comorbidities has implications for treatment, both creating opportunities and imposing limitations. HCPs may want to consider opportunities for “therapeutic two-fers” or using treatments that will have benefit for both conditions when possible, although medications must be administered at therapeutic doses for both conditions. On the other

hand, HCPs should avoid medications that may have adverse events that exacerbate or complicate the comorbidity.

There are several scientifically sound and easy-to-use instruments that can be incorporated into clinical practice to aid in the assessment and monitoring of psychiatric comorbidities.

The Patient Health Questionnaire (PHQ)¹⁸ is a paper-and-pencil screening tool for a range of psychiatric disorders and related common psychological issues. The PHQ-9¹⁹ is a 9-item subset that screens for depression. The 7-Item Generalized Anxiety Disorder (GAD-7) assessment²⁰ is a 7-item scale that screens for anxiety. The PHQ-4²¹ is a very brief screening test for depression and anxiety. HCPs in a busy practice may want to use the PHQ-4 as a screening tool at the time of the initial or fol-

low-up visit and then follow-up with one of the full-length instruments if the patient screens positive.

All of these instruments have strong psychometric properties, well-validated scoring systems, use *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)* criteria²² for assigning diagnoses, and are in the public domain and available for use at no cost.

DR. LIPTON: Are there other comments on the assessment section, Drs. Silberstein or Kurth?

DR. SILBERSTEIN: I think general health issues such as smoking

and hypertension and hormonal contraception in this population should also be assessed. Many of the patients we see are women of childbearing potential. Many are often taking hormonal contraception, which can be a risk factor for complications of migraine, but also a benefit. I think we need to ascertain the use of hormonal contraception for that reason and especially if we're going to put a woman on regular medications so that we don't prescribe drugs that may have the potential to cause abnormalities in the fetus.

It's important to ascertain the smoking status as well, which can be a risk factor for aggravation of headache and a contraindication of hormonal contraception. We also

look for hypertension and other general medical problems that may be a contraindication to the drugs we use to treat migraine, both from an acute and a preventive point of view.

DR. BUSE: In addition, healthy lifestyle habits are important in achieving the best outcomes. I recommend asking about sleep habits and problems, exercise and activity, nutrition, smoking habit, and alcohol or other substance use as Dr. Silberstein recommended. Problems in any of these areas may warrant referral to a behavioral or mental health provider, physical or occupational therapist, nutritionist, or other allied health-care provider.

DR. LIPTON: Thank you, Dr. Silberstein and Dr. Buse. Let's move on to the epidemiology. Dr. Kurth, how common is migraine in its various forms?

DR. KURTH: Well, migraine is by far the most common neurological disorder in the general population. It's very clear that women are more affected than men—nearly 3 to 4 times more. We know that migraine prevalence is age-dependent, and we have a peak 1-year prevalence between the ages of 25 to approximately 55 years, with a decreased prevalence thereafter but not complete cure in the elderly.²³

Overall, approximately 10% to 20% of the general population has active migraine.²⁴ Dr. Lipton has extensively researched this, reporting that approximately 18% of women and 6% of men have a history of migraine.²³ The question of how common the various sub-

forms are, specifically migraine with aura and migraine without aura, is quite difficult to answer in population-based studies because aura is challenging to ascertain even in a clinical setting. When we go into population studies and try to determine specific neurological features, such as visual disturbances, it's very difficult to get the right figures.

If you look at the population level, migraine with aura ranges from approximately 10% up to 30% and sometimes even higher.²⁵ It's likely that the ascertainment tools are different. Maybe the right number is between these 2 figures, approximately 20%.

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Tobias Kurth

With regard to chronic migraine in the population, most studies now indicate that chronic migraine has a prevalence of approximately 1% to 2%,²⁶ which is a very high value because chronic migraine is certainly a condition that has the highest burden for the patient and society.

DR. LIPTON: There's a distinction between chronic daily headache and chronic migraine. My understanding of the literature is that chronic daily headache, primary headache for 15 or more days per month, has a prevalence of 3% to 5%. A review of studies estimating chronic migraine using several definitions in countries worldwide reported most prevalence rates in the range of 1% to 3%.²⁶

DR. KURTH: That's correct. A recent examination of the US population reported an overall rate of just below 1%, with higher rates in women in midlife.²⁷ Another issue is migraine in the elderly. Although we believe that migraines are less common in the elderly, an increasing number of studies are showing that approximately 3% to 5% of the elderly (>65 years) in the population still report migraine,²⁸ which is still a high number.

DR. LIPTON: Dr. Buse, how do you understand the relationship between episodic migraine and chronic migraine?

DR. BUSE: The relationship between episodic migraine and chronic migraine is fluid and bidirectional, and individuals may move in either direction during the course of their lifetime. Moving from episodic to chronic migraine has been referred to as "transformation," "chronification," or "progression." An analysis of data from the American Migraine Prevalence and Prevention

(AMPP) study showed that among individuals with episodic migraine in the general US population, an average of 2.5% developed chronic migraine in a subsequent year.²⁹ This rate is probably higher in clinic-based populations. We know there are several risk factors for new onset of chronic migraine, which can be divided into nonmodifiable and potentially modifiable risk factors. Modifiable risk factors and potentially modifiable risk factors are important to identify because they may provide targets for intervention and treatment.³⁰

Nonmodifiable risk factors include the female sex, a lower education level, low socioeconomic status, history of traumatic brain injury, and genetic factors. Potentially modifiable factors include headache attack frequency, certain classes of medication overuse, caffeine use, obesity, snoring, stressful life events, depression, anxiety, and adverse childhood experiences.

DR. LIPTON: Dr. Kurth, what is the relationship between migraine and stroke?

DR. KURTH: Well, the relationship between migraine and stroke was first described long ago and for approximately 40 years, the relationship has been confirmed through numerous population-based and clinic-based studies. We have to understand, however, that there are certain subgroups that are at a higher risk than other groups. Overall, there's an approximately two-fold increase in the risk of stroke from migraine, which is only observable in patients with migraine with aura in most studies.³¹ There is no increased risk of stroke with migraine without aura.³¹

In subgroups, the increased risk seems to be particularly evident in

younger women. Smoking and oral contraceptives seem to play an important role. If a young woman with migraine with aura smokes and uses an oral contraceptive, the risk of stroke increases up to approximately 10-fold or even more in some studies.³¹

We have to understand, however, that although we're talking about doubling the relative risk, the absolute risk for an individual is still low. It was estimated that approximately 4 additional ischemic stroke events would occur annually per 10,000 women with migraine with aura,³² which is still a very small number. Despite the publicity about this topic, we have to be realistic about the fact that we cannot predict which patient with migraine with aura will eventually have a stroke.

Some evidence suggests that migraine is also a risk factor for hemorrhagic stroke, but the evidence is scanty as compared to that for ischemic stroke because ischemic stroke is a much more common event.

DR. LIPTON: What's the relationship between migraine and other forms of cardiovascular disease?

DR. KURTH: That's a good question. There are some theories about the increased vascular risk factors in patients with migraine that may explain the increased risk of ischemic stroke. In this scenario, it is plausible that migraine may also increase risk of other ischemic vascular events. Indeed, recent prospective studies have identified migraine with aura as a risk factor for myocardial infarction or other ischemic vascular events; however, the totality of evidence, compared with just that on ischemic stroke, is much lower

because there aren't as many studies showing a link.

The difference of the association between migraine and coronary events seems to be that the association is not limited to younger individuals (as with ischemic stroke). It's not so clearly linked to subgroups such as those who smoke or use oral contraceptives, so the mechanism may be different. However, we need more evidence and particularly need to understand the precise mechanisms before we scare patients with the idea that migraines will increase their risk for various vascular events in the future.

DR. LIPTON: How do you think a primary care doctor should address the concerns that their patients with migraine with aura might express?

DR. SILBERSTEIN: Migraine is a risk factor for other disorders. The drugs that we use to treat migraine may either aggravate another disorder or be a contraindication. In terms of general health, we have to ensure that patients don't smoke or drink excessively, and if they're using hormonal contraception, the concern would be with migraine with aura in the presence of hypertension and smoking.

Most of our patients are generally young and healthy; it's the elderly patient we tend to worry about. However, if there are no risk factors for coronary artery disease and they're not hypertensive, diabetic, or obese or are non-smokers, we can treat them in the same way that we treat the younger patients.

DR. KURTH: Migraine should be simply viewed as marker of an increased risk of vascular events. While we're trying to determine mechanisms that would allow the identification

of patients with migraine who are at an increased risk of vascular events, assessing cardiovascular risk factors in a patient with migraine is necessary. It is specifically important to tell patients with migraine with aura to quit smoking and discuss the increased risk of vascular events with women patients who are taking oral contraceptives.

Whether there's anything additional that a migraine patient can do, is unclear at this point. It is also unclear whether a preventative migraine medication will change the increased risk of vascular events and whether the acute medication is relevant to the increased risk. This is unlikely to be the case, as the association is limited to migraine with aura, although all patients with migraines take medication. I think the assessment of cardiovascular risk factors, as with any other patient, is beneficial.

DR. LIPTON: I think your earlier point that the absolute risk is low even when the relative risk is high, is very pertinent. Let me now focus on the issue of using oral contraceptives in women who have migraine with aura. Do you have a view on that, Dr. Silberstein?

DR. SILBERSTEIN: I think that one can use hormonal contraception in

women with migraine with aura as long as they are not smoking, are not hypertensive, and understand that if there's any change in the aura, it's perfectly reasonable to use progesterone-only contraception, which is just as effective but may induce slightly more headache-related adverse events. That would be, in general, my first choice. There have been some patients in the past who needed hormonal contraception for other reasons or who did not benefit from progesterone-only contraception. I would put them on hormonal contraception as long as they're monitored carefully for new or increased aura symptoms.

DR. LIPTON: Posing this question to all of you: do you have any specific advice for primary care clinicians who examine headache patients in the setting of diagnosis, assessment, and peaking epidemiologic factors.

DR. SILBERSTEIN: The best learning is that when a patient comes to the office complaining of a recurring headache, think of migraine; don't think of tension headaches, cluster headaches, or sinus headaches. You will consequently ask the rest of the questions and prescribe migraine-specific medication or drugs that have been proven to be effective.

Clinical Implications

- ▶ Migraine is 3 to 4 times more common in women than in men.
- ▶ Most of the care for migraine patients takes place in the primary care setting.
- ▶ Migraine is a risk factor for other disorders.
- ▶ Comorbidities associated with migraines can influence both prognosis and treatment choices.

The next thing you need to do is ask your patient “Do you have headaches more often than not?” Again, the strategy would be different for patients with very frequent headaches. Clinicians always need to consider the scenario that patients with very frequent headaches may be overusing medication.

DR. BUSE: I advise HCPs to gather a complete picture of their patient by asking about functioning in all aspects of life and how their life has been affected by headache. This includes assessment of headache-related disability, quality of life, and medical and psychiatric comorbidities. Asking these types of questions will not only enhance data gathering, but will also give the patient permission to share additional information. If questions about impact on life, disability, and comorbidities are not asked, patients may not spontaneously provide this information. However, knowledge of comorbidities; headache impact; headache-related disability; and impact on family, social, occupational, and academic functioning is incredibly important in truly understanding the scope, burden, and severity of the condition. This information will allow for the development of tailored and effective treatment plans that optimally incorporate available pharmacologic and nonpharmacologic treatments and tools that are effective and appropriate.

DR. KURTH: I think it’s certainly important to spend time with the patient to obtain important information, as we have discussed, and to educate the patient about potential symptoms and changes in the migraine presentation that may cause

a patient to return to the clinic. It may also be important to create a long-term relationship with the patient. We know that, specifically for patients with a high headache frequency, it’s quite difficult to find the right treatment, and therapy may have to be changed several times before a patient finds a treatment plan that works for him/her.

With regard to the cardiovascular risk factors, education is important. It’s also important that the clinician talks about the possibility that the headache pain resulting from a migraine may disappear but the aura symptoms may continue, especially for the elderly. We may need to follow-up with migraine patients who don’t have headache pain anymore because that may be an indication of an increased risk for other diseases.

A migraine patient is not just a patient with headache who you can send home with pain medication. We need to think about maintaining a long-term relationship and care for patients with migraine.

DR. LIPTON: In summary, we have talked about the diagnosis, assessment, and epidemiology of migraine. Regarding the diagnosis, while excluding secondary headache is certainly important, the faculty agrees that it is important to investigate the patient with an unusual headache or physical examination and consider migraine as a diagnosis first. Although migraine is a neurologic disease, care for patients with migraine mostly takes place in primary care settings. Therefore, only 10% to 15% of migraine patients consult neurologists and only 2% visit headache or

STUDIES DISCUSSED:

American Migraine Communications Study
American Migraine Prevalence and Prevention Study

pain specialists.³³ The treatment of headache is mostly done in primary care settings, creating tremendous opportunity to improve headache outcomes. Primary care doctors should refer the patient to another specialist if the diagnosis is unclear, if the patient is not responding to treatment, or if levels of disability remain high despite efforts to treat.

We’ve established that migraine is an extraordinarily common disorder, affecting 18% of women and 6% of men.^{23,33} We’ve talked about the fact that migraine is a disabling disorder and that communication about disability is key in making an informed treatment decision while considering disability. We’ve talked about a number of comorbidities of migraine that influence both prognosis and treatment choices. Finally, we’ve talked about the relationships between migraine and psychiatric disorders, migraine and stroke, and migraine and heart attack, which indicate that migraine does not occur in isolation and that it certainly is not just a headache disorder but rather, a very common and treatable disorder in primary care.

With that, I’d like to thank the faculty—Dr. Silberstein, Dr. Buse, and Dr. Kurth—for their terrific participation and *The Medical Roundtable* for the opportunity to participate in this educational endeavor.

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