An Interview with Dr. Tom Brewer

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Preventing eclampsia : an interview with Tom Brewer, MD

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Despite a century of research, American medicine offers as little today for the prevention and treatment of eclampsia (traditionally called toxemia) as it did a hundred years ago. This progressive and potentially fatal condition remains a leading cause of miscarriage, premature birth, and infant mortality in the United States and around the world. An estimated 50,000 women die every year from eclampsia.

The condition's name is derived from the Greek word eklampsia, which means a sudden flashing or onslaught, an appropriate term for the rapidly developing system failures that characterize this medical emergency. Hypertension, severe edema, and protein in the urine are the signature symptoms of eclampsia, which adversely affects the brain, kidneys, liver, and lungs. Other common symptoms include headaches, nausea and vomiting, decreased urine output, changes in mental status, agitation and confusion, pain in the upper right abdomen, shortness of breath, sudden weight gain, and visual impairment. If the condition progresses to its final stage, the mother-to-be develops seizures or goes into a coma.

Extensive research notwithstanding, the cause of eclampsia remains a medical mystery. The preferred treatments are bed rest, dietary restrictions, prescription diuretics, and medication for hypertension. The preferred cure is delivery of the infant, usually months premature, by induced labor or Caesarian section.

To Tom Brewer, MD, these methods are worse than useless; they're dangerous. The cause of eclampsia and its simple cure, he says, have been known for decades. Beginning in the 1920s and '30s, medical journals have published dozens of scientific studies based on clinical observation as well as statistical and epidemiological studies showing that eclampsia is an easily prevented nutritional disease. (1-75)

Now retired, Dr. Brewer enjoys a career as a lecturer and nutritional counselor for pregnant women. Thanks to electronic publishing, the books What Every Pregnant Woman Should Know and The Brewer Medical Diet, both of which describe his discoveries and recommendations, are available as ebooks at www.pregnancybooks online.com. The Blue Ribbon Baby Pages website (www.blueribbonbaby.org) details his dietary guidelines, along with case studies, scientific references, and other information for

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pregnant women. In addition, Dr. Brewer maintains a free information hotline at 802-388-0276.

Interview with Tom Brewer, MD

Q: How did you become interested in the importance of nutrition for a healthy pregnancy?

Dr. Brewer: I learned about the problem of eclampsia, or what I call the metabolic toxemia of late pregnancy, before I went to medical school. I was married and had a new baby, and we had a neighbor from Russia who often described conditions in that country and the toll they took on pregnant women. (7) Times were very hard, food was scarce, and many women died of hemorrhage or convulsions. The Russian people at that time believed such events were the will of God and that women were meant to suffer in childbirth, but my neighbor believed the problem was simply a lack of food.

So in 1947, when I got into medical school at Tulane University, which was at that time in the middle of a New Orleans slum, I saw the problems he described first-hand.

In my first year, I went to a lecture given by James Henry Ferguson, (16) an instructor who came from Chicago, where he had worked with W.J. Dieckmann, a professor from Germany. Professor Dieckmann believed that protein deficiencies and malnutrition were the cause of most of the problems he saw in Chicago. He was then chair of the Chicago Lying-In Hospital.

When Ferguson came to work at Charity Hospital, where Tulane then had an obstetrics ward, he gave several lectures on OB/GYN topics, and one was about toxemia pregnancy, as it was called in those days. He said we were faced with a disease that's common in poor people, common in people who don't have prenatal care, common in diabetics, and common in women who have twins.

As he listed the risk factors, I had a gestalt, a moment of insight. I already had in mind the observations of my Russian neighbor. Now I was hearing an expert talk about the risk factors of toxemia. I realized that this problem could only be due to one thing, and that's poor nutrition.

Q: Did any of your professors make this connection?

Dr. Brewer: None of them did. They were surrounded by poverty and malnutrition but, as far as I know, none of them ever considered that these conditions might have anything to do with the problems we saw every day, like worms in children, miscarriages, and various diseases. My professors definitely did not share Ferguson's views. They were primarily surgeons. They were interested in performing C-sections, removing fibroids and ovarian cysts, performing hysterectomies, and so on.

So there, in my first year of medical school, I developed an antagonistic view.

When I started working with patients, I was on a ward where there were 20 beds with women who had this disease, toxemia pregnancy. Their blood pressure was up, their bodies were swollen, and they had a history of not having a decent diet. I learned this by talking with them. That's considered anecdotal, not verifiable, not from a clinical trial, not statistically significant, and so on. I've never been big on the statistical approach because each individual mother is important. Each one faces her own troubles.

Anyway, I got onto this nutrition connection, and I became obsessed with it. It became a central area of thought for me.

For my internship, I went over to Baylor College of Medicine in Houston. There was a lot of toxemia there, too.

Q: Were you able to help your patients?

Dr. Brewer: Yes. As an intern, I studied them. I did blood tests and liver function tests, and I asked them questions. As a result, I made several observations. For example, the blood gets thicker in toxemia because the woman gets dehydrated. (22-24,35,37,49,52,57) That's why diuretics are so dangerous in pregnancy. Also, toxemia is directly related not only to a lack of fluid in the body but a lack of protein, (5,6,14,18,38,45,54,56) salt, (13,21,36,42,44,46,47,49,59,69) vitamins, (4,18) minerals, (28,56) and other things. (7-9,14,30,56,62,63,65-68) Keep in mind that during my internship, there were only about 50 known nutrients. Now more are being discovered all the time. There may be a thousand nutrients. So I didn't know exactly how nutrition prevented toxemia, I just knew that it worked.

After my internship, I went to Lallie Kemp Charity Hospital, which was a rural hospital north of New Orleans. After a year there, I went into general practice in Fulton, Missouri. I had a partner, Dr. Jim

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Hill, who went with me from our General Practice residency at Lallie Kemp. Jim Hill and I were both studying toxemia. We did not restrict salt, we did not restrict food or weight gain, we did not use diuretics, we encouraged our patients to eat protein, and we had very healthy women giving birth to healthy babies. Prior to our arrival at Lallie Kemp Charity Hospital, 25% of the pregnant women there had toxemia. To go from a situation where one out of four women has hypertension, edema, and protein in the urine to where there's none at all was what I call a learning experience. It's not something I read in a book. We used the same approach in our General Practice in Fulton, where we worked for three years. Out of 100 births, we had only one toxemic patient. She was a poor woman who came to us from a shack on the Missouri River easement. She was severely toxemic because of her deficient diet, and she had received no prenatal care at all.

Then I went back to take a residency in obstetrics and gynecology, primarily to study this disease further and to try to prove the methods by which it occurred. The only professor who would support me in this effort was the same Jim Ferguson who had lectured at Tulane in 1947. By this time, he had become a professor and chairman at the University of Miami's Jackson Memorial Hospital in Miami, Florida.

I asked him to give me a research fellowship. He said there was no money for research on nutrition and pregnancy but to come anyway. In some ways that was a mistake because it's difficult to be a full-time resident and do research on the side, but I did it. I was there for four years, working with Jim Ferguson on a number of projects that interested him. We studied the placentas to see whether there was bleeding or what I now call toxic abruptio placentae, where the placenta just breaks loose, usually in the middle trimester. (33,57) This happens in the time span just beyond the spontaneous abortions that occur in the first trimester.

That condition seems to be increasing today, along with toxemia itself and all kinds of child development problems. (29) I'm convinced that low birth weight, (1,7,8,11,12,18-20,27,29,33,38,41,60) premature birth, (21,58) lowered intelligence, (32,34) birth defects, (70) neurological dysfunction, (20,26,27,32,34,40) and many other problems–all have a nutritional cause. I suspect this is true for autism, idiopathic respiratory distress syndrome, cerebral palsy, and sudden infant death syndrome as well. The individual nutrient that's involved varies from patient to patient, but they all fit under the umbrella of malnutrition. These conditions are studied as though each is a disease unto itself, unrelated to everything else, but they're not. They are what happens when you starve a pregnant woman or when she by circumstances, starves on her own or when some idiot doctor puts her on a low-calorie, low-salt diet and prescribes diuretics, which are the worst things you can give her. (22,37,42,44,46,49,52,58) Low blood volume, which is the inevitable result of dehydration and the use of diuretics, contributes directly to eclampsia, premature birth, and low birth weight. (23,35,36,38) And now there's a whole group of hypertension drugs that have come out in the last 10 to 15 years. These drugs just ravage women. They cause direct damage to all of the cells in the mother's body, particularly to the liver, a little to the kidneys, and then to the placenta and fetus.

As a result of all this, my point of view or medical philosophy is not at all compatible with that of the people who are running things. I believe American medicine took a very bad turn when it let pharmaceutical companies take over.

Q: What is your general advice to pregnant women and to women who hope to become pregnant?

Dr. Brewer: I tell them to stay away from prescription drugs, eat good-quality protein, eat a variety of foods, drink plenty of water, don't try to lose weight, and don't restrict salt. I tell people to trust their taste buds and salt their food to taste. If your food tastes bland, or if you get leg cramps or feel tired and weak, just put a little more salt on your food. I'm always amazed by modern medicine's prejudice against salt. (21,22,36,37,42,46-49,52,58,69,71) I used to watch a lot of tennis, and I'd see players out in the hot sun with cramps in their legs, and their doctors would advise them not to use salt tablets. There were even experts who would say you shouldn't take salt when you're running in a marathon. That attitude has changed a little, but salt still has a terrible reputation. It's because the anti-salt crusade lasted for so many years. There was this prevailing attitude that salt was poison, that it caused hypertension, that it caused strokes, that it caused diabetics to go to pieces, and that it just shouldn't be used. Sodium even disappeared from medical books. You'd find other minerals described as important or essential, but sodium wasn't even listed.

You could say that the best advice I can give women is to ignore the experts and take responsibility for their own bodies and their own babies. Our culture has a long history of treating women as inferior, and that's especially true in medicine. Women who educate themselves, listen to their bodies, stay

away from prescription drugs, and feed themselves the way healthy women have fed themselves for thousands of years, not the way Americans are feeding themselves today on low-fat, low-protein, high-carbohydrate, low-salt, low-calorie foods–those enlightened women are going to have healthy, full-term pregnancies with no complications.

Protein, good foods, salt, and water have protective effects, and prescription drugs have all kinds of adverse effects, yet the irrational, unscientific use of restrictive diets and prescription drugs in pregnancy continues. Doctors tell their patients to eat low-protein, low-calorie, low-salt diets, even though these have been thoroughly documented as being harmful to both the mother and her unborn child. (4-6,8,10-12,14,16-18,22,36-38,40,42,46,47,50,55,58-64,67,71,75) In addition, the blind use of "weight limitation" in pregnancy management has been shown in studies of thousands of pregnancies to be dangerous because it leads to malnutrition, especially in the last half of gestation. (31,40,46,49,52,54,58,59,62) Pregnancy is simply not the time to restrict food.

Q: What is the Brewer Diet for a Healthy Mom and Baby?

Dr. Brewer: I called this my Brown Bag Prenatal Nutrition Lecture. (65-67,74) A pregnant woman should drink one quart (four 8-ounce glasses) or more of milk every day. In addition, she should eat two eggs plus one or two servings of fish, chicken, lean beef, lamb or pork, or any kind of cheese.

She should also eat one or two daily servings of fresh, green, leafy vegetables such as mustard, collard, or turnip greens, spinach, lettuce, broccoli, or cabbage; five servings of whole-wheat bread, corn tortillas, or cereal; a piece of citrus fruit or a glass of orange or grapefruit juice; a large green pepper, papaya, or tomato; and three or more pats of butter.

The diet also includes five servings of yellow-or orange-colored vegetables five times a week; liver once a week if you like it; a whole baked potato three times a week; all the water and fluids you need to prevent thirst; and all the salt you need to make your food taste good. These are not optimum amounts, these are minimums, and you go from there.

You need 80 to 100 grams of protein every day to prevent toxemia. I never used this figure when describing the diet because it was hard enough to get patients to remember a quart of milk and two eggs every day, plus salt to taste. That was the diet's foundation. It is a little more difficult to reach your nutritional goals if you are a vegetarian or have food allergies, but you can do it. For protein, you can substitute vegetable proteins as long as they are "complete" proteins and you don't have trouble digesting them. Rice with beans, peanut butter, tofu, nuts, and seeds all provide protein.

This diet will prevent toxemia, other maternal complications, and all kinds of neurological, physical, motor, and behavior abnormalities in the child. I tested this diet for over 30 years on thousands of patients and those who followed it never had eclampsia, anemia, abruption of the placenta, severe infections of the lungs, kidneys, or liver, low birth weight babies, premature birth, or miscarriage, and all of their children were healthy.

It takes courage to adopt this diet because the concept behind it, that malnutrition is the cause of toxemia and other diseases associated with pregnancy, remains very unpopular in American obstetrics.

Q: Are pregnancy problems increasing in the United States?

Dr. Brewer: They are. Pregnant women in our country have become less healthy than pregnant women in other countries. Increasing numbers of premature or "low birth weight" babies are being born. The US is starting to resemble Third World countries that have extreme poverty and famine. That is because our doctors don't know anything about nutrition.

Instead of focusing on food, they focus on drugs. They keep looking for a remedy that will cure toxemia. They prescribe diuretics for edema, hypertensives for high blood pressure, and drugs that suppress the appetite for weight loss. Those do nothing to prevent or reverse Metabolic Toxemia of Late Pregnancy, they just make it worse.

People have been recommending supplements, too, like calcium, fish oil, and an aspirin a day, all of which are supposed to prevent toxemia. But research published in the medical journals show that these aren't effective, either. (76-79,81) Calcium, aspirin, essential fatty acids, and other supplements can't take the place of good food.

Meanwhile, doctors are doing what they've been taught, and it isn't working. I think this is why so many obstetricians have been sued for malpractice. If they were delivering full-term healthy babies

with no complications, no one would be suing them. But the premature birth rate just keeps increasing, and so do all the other problems that result from inadequate nutrition.

Improving the diet is the most effective and least expensive way to prevent toxemia and insure the delivery of full-term, healthy babies. The dietary guidelines I developed in the early years of my medical practice are still working well. When I went to Richmond, California, and ran the prenatal clinics of Contra Costa County from 1963 to 1976, over 25,000 women followed these guidelines with success. (51)

These clinics had never offered any kind of nutritional counseling. The women would be weighted, they'd have their blood pressure checked, and they'd have a urine test, but no one ever asked them what they ate. I always asked. That's the thing I did that was different. The reason I could do that was because I was the only OB doctor at the time. My methods were unconventional, but I was the person in charge, so we did it my way.

I was taught in medical school that if a pregnant woman gains over two pounds a week, she's about to die. That's how intense the fear of weight gain was. But I never told a single woman that she was gaining too much weight. The only reason I discussed weight with them at all was to be sure they were gaining enough, that they weren't too thin. Winslow Tompkins (8,18) studied this in the 1940s and '50s both in West Virginia and Philadelphia, and he discovered that the patient who does not gain weight is at high risk for toxemia. His work had a profound effect on me as I studied this problem. He worked for the government as head of the MIC (Maternal Infant Care) program, which was a forerunner of the WIC (Women, Infants and Children) program. The MIC program didn't work because so many doctors who worked in it ignored Tompkins' good advice and did what they were taught in medical school instead, so they got poor results. He had the right ideas, he articulated them and got the programs set up, but the program's doctors, who were scattered around the country, followed the advice of pharmaceutical companies and ignored nutrition. They prescribed diuretics and other drugs, and their patients suffered.

After I finished my five-year contract with the clinics of Contra Costa County, I stayed on and worked with the people who were hired to do a statistical study. I'd spent two years in Richmond, then two years at the county hospital in Martinez, and then went to Pittsburgh, California, so I had worked at all three of the major county clinics. The data showed improvement in every category. There was a period during which the Pittsburgh clinic continued to use conventional methods while I used nutrition in the Richmond and Martinez clinics, so we used the Pittsburgh clinic as a control. The Pittsburgh clinic had 10 times more hypertension in first pregnancies than the Richmond and Martinez clinics. Those findings were published in the Journal of Reproductive Medicine as a preliminary report. (51) A team of eight government researchers spent three years going over 5600 cases. They studied every blood pressure reading, every urinalysis, and every other test recorded on the charts, and they verified our results.

Throughout my 12 years in these clinics, I met face-to-face with about 7,000 pregnant women. Many people came to sit in on my lecture discussions to see if I was a charlatan, nutrition faddist, quack, or nut. Some of these visitors were from Planned Parenthood, March of Dimes, State colleges, or UC Berkeley, or they were public health nutritionists. At the end of the discussion, after the patients had left to be examined, someone would always say, "That's a very nice presentation, Dr. Brewer. Your advice isn't likely to kill any pregnant mom or fetus. But do you think these people can understand it and apply it in their daily lives?" My patients might have been poor and mostly black or Mexican, but they got my message.

Five years after one woman gave birth to a healthy 8-pound baby, she came back because she was pregnant again. She told me that when she was there the first time, she was illiterate, but she had since gone to school and learned how to read and write. I was very happy for her, as that was quite an achievement. Then I asked her what I had told her to eat, and she rattled off the list that had kept her healthy five years before. I said, "Isn't it amazing? Even when you didn't know how to read or write, you knew more than most professors at the University." And that was the truth.

Q: What about high-risk patients, like women who are overweight to begin with?

Dr. Brewer: They're at risk only if they starve themselves trying to lose weight. Developing babies need a certain amount of nourishing foods every day, and that's what my diet provides. Many overweight women lose weight or keep from gaining weight while maintaining a healthy pregnancy just by focusing on the right foods. Average-size women often gain as much as 50 pounds on these foods.

That's what Catherine Zeta-Jones did when she gave birth last April to a 6-pound, 12-ounce baby. Pounds of weight gain or loss are not the essential question for the health of mom and baby. What matters is the adequacy and quality of the food the mother eats, the amount of water she drinks, the amount of salt she consumes, and whether she avoids harmful drugs. Women who eat well and gain 40 or 50 pounds usually lose the weight soon after birth because much of the weight gain in a healthy pregnancy is due to the mother's expanded blood volume and the weight of the baby, placenta, and amniotic fluid. But if you gain weight eating junk food, the baby can't use any of it for nourishment and it gets stored as fat, which is much more difficult to lose. I used to see women at the charity hospital who lived on sugar and starches, which are empty calories. They were overweight, but they gave birth to underweight babies, and they often developed toxemia. I had a 400-pound patient once who ate six candy bars every morning for breakfast. She was at risk not because of her weight but because of her terrible diet.

The most serious risk for an overweight patient is the doctor who assumes that if you're pregnant and have even slightly elevated blood pressure, you have toxemia and should stay in bed, stay away from salt, take diuretics and hypertension medications, try to lose weight, and get ready for a C-section or induced labor.

The symptoms of toxemia or eclampsia can seem to develop rapidly, but they actually progress gradually, with enough warning for the patient to reverse the trend. Midwives who follow my diet call this treatment "Turn It Around." That's exactly what they do, they turn the condition around. Most doctors believe that once eclampsia begins, it can't be corrected. That's an aphorism or a received wisdom, a shared belief, but it isn't true at all. One of my mentors, Maurice Strauss, (5) discovered in the 1930s that women who had severe morning sickness throughout their pregnancies often went into convulsions, but when he put them on high-protein diets as therapy, they stopped vomiting and experienced a normal pregnancy.

I've found that the only time hypertension doesn't respond to nutritional therapy is when it's a preexisting condition that isn't caused by diet, and that's unusual. Almost all pregnant women who have hypertension and edema have it because they aren't getting enough protein, other nutrients, salt, and fluids.

Another problem pregnant women face is gestational diabetes testing. Medical doctors assume all pregnant women are at risk for diabetes, so they test their blood sugar, but they don't use normal values to diagnose the results, they use a reference range based on test results from undernourished pregnant women. As a result, the glucose tolerance test (GTT) values for pregnancy are too low for women who follow the Brewer Pregnancy Diet. Women who are well-nourished are able to meet their babies' glucose needs without lowering their own, but most pregnant women in America exhibit lower plasma glucose levels than the rest of the adult population because they are not eating well. Doctors who insist on giving a GTT to women on the Brewer Pregnancy Diet should use the new diagnostic criteria established for non-pregnant individuals to avoid making an incorrect diagnosis of diabetes.

If a patient insists on taking the GTT, she should load up on starchy foods such as bread, potatoes, rice, pasta, and sugars for three days prior to the test. These carbohydrates help the liver store glycogen in preparation for the all-night fast imposed by the GTT protocol. This glycogen reserve can then stabilize the blood sugar during fasting. Without carbohydrate loading, you exhaust your liver's storage of glycogen overnight and may test out with a diabetic curve when, in fact, you are not diabetic at all, you're just temporarily glycogen-depleted.

Q: What about other risk factors, like smoking or exposure to environmental pollution?

Dr. Brewer: I always told pregnant women to try to refrain from smoking, drinking alcohol, and using street drugs, and I still think that's sensible advice. But when one of my patients told me her sister smoked two packs of cigarettes a day through five pregnancies, and all of her babies were full-term and weighed eight pounds, that convinced me more than ever that nutrition is the most important factor.

Environmental factors are much more likely to pose a risk to women and developing babies who don't receive enough nutrition than they are to fully nourished women and babies.

Q: Scientists recently announced that certain proteins secreted by the placenta rise significantly in mothers experiencing eclampsia, suggesting that these proteins cause eclampsia. (80,82) Are these findings significant?

Dr. Brewer: Research that's focused on "genetics" or speculative biochemical enzymatic equations

never addresses the underlying cause of an illness or condition. I don't doubt that unusual proteins are produced by a starving fetus or a starving mother, but those proteins don't cause eclampsia. They're just another symptom. Inadequate nutrition causes eclampsia.

In a New Zealand sheep experiment published in the journal Science, none of the ewes on a normal diet had premature births, but half of the ewes that were put on a moderate weight-loss diet at the time of conception gave birth prematurely. (83) The researchers decided that a mother's diet before and around the time she conceives can profoundly influence the length of pregnancy, and they called this a stunning scientific breakthrough. This is what I mean about medical researchers knowing nothing about nutrition. It's obvious, but they didn't have a clue.

Sheep have been studied before, and they have shown all the same symptoms and problems that humans have. In one study, pregnant sheep were starved at the very end of their pregnancies, and most of them died. Other researchers have found that sheep giving birth to twins, triplets, or quadruplets are more likely to have toxemia than those giving birth to single lambs.

This is true for humans, too. A woman pregnant with twins has to eat for three, for herself and each of her babies, and a woman pregnant with triplets has to eat for four. It isn't easy to do this, but the more good nutrition a woman can provide for her developing babies, the healthier they will be. (72)

Q: One problem women face is that they may not be planning to get pregnant, or they may not know they're pregnant until several weeks have passed. Yet their diet at the time of conception is as important as their diet in the following nine months.

Dr. Brewer: That's exactly right. If you're a woman of child-bearing age and you're remotely interested in having children, the only sensible thing to do is improve your diet now. Pregnancy is a test of the body. This is why it's so hard on the poor. It's also hard on the fashionably thin. It's worse if you smoke, too, but the most important factor is nutrition. If you make bad food choices, you're more likely to have complications during pregnancy and give birth to a child who has serious health problems. But if you ignore the advice of most doctors and eat the foods that support the developing fetus, you'll have a problem-free pregnancy and a healthy child. And if you're already pregnant, it isn't too late to improve your baby's health. Even in the final months of pregnancy, improving the maternal diet has a beneficial effect on fetal growth. (30)

Q: How does your Pregnancy Hotline work?

Dr. Brewer: I enjoy hearing from pregnant women and the people who support them, and my hotline at 802-388-0276 is reserved for that purpose. Most of the women who call learn about me from the Blue Ribbon Baby Pages at www.blueribbonbaby.org.

I like to hear their stories, and I enjoy offering a second opinion. Everyone who is in the business of helping women and babies, including midwives, obstetricians, pediatricians, lactation consultants, childbirth educators, and doulas, should know the truth about nutrition.

My dream is that one day every woman will know how easy it is to have a strong and healthy baby.

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20. Knobloch, H., et al. “Neuropsychiatric sequelae of prematurity: A longitudinal study.” JAMA

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documenting that hypovolemia and hypoalbuminemia precede hypertension and other signs of metabolic toxemia of late pregnancy.

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