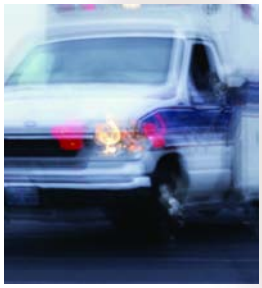
Terrorism and Disaster

WHAT CLINICIANS NEED TO KNOW




Psychiatric Sequelae in a Survivor of 9/11

RUSH UNIVERSITY MEDICAL CENTER

Terrorism and Disaster

WHAT CLINICIANS NEED TO KNOW

SERIES EDITORS

Rush University Medical Center Chicago, Illinois

Stephanie R. Black, MD*
Assistant Professor of Medicine
Section of Infectious Diseases
Department of Internal Medicine

Daniel Levin, MD*
Assistant Professor
General Psychiatry Residency Director
Department of Psychiatry

Gillian S. Gibbs, MPH*
Project Coordinator
Center of Excellence for Bioterrorism Preparedness

Linnea S. Hauge, PhD*
Educational Specialist
Department of General Surgery

AUTHORS

Rush University Medical Center Chicago, Illinois

Stephanie R. Black, MD*
Assistant Professor of Medicine
Section of Infectious Diseases
Department of Internal Medicine

Daniel Levin, MD*
Assistant Professor
General Psychiatry Residency Director
Department of Psychiatry

Uniformed Services University Health Sciences Bethesda, Maryland

David M. Benedek, MD, LTC, MC, USA
Associate Professor of Psychiatry

Steven J. Durning, MD, Maj, USAF, MC*
Associate Professor of Medicine

Thomas A. Grieger, MD, CAPT, MC, USN*
Associate Professor of Psychiatry
Associate Professor of Military & Emergency Medicine
Assistant Chair of Psychiatry for Graduate & Continuing Education

Molly J. Hall, MD, Col, USAF, MC, FS*
Assistant Chair & Associate Professor
Department of Psychiatry

Derrick Hamaoka, MD, Capt, USAF, MC, FS*
Director, Third Year Clerkship
Instructor of Psychiatry

Paul A. Hemmer, MD, MPH, Lt Col, USAF, MC*
Associate Professor of Medicine

Benjamin W. Jordan, MD, CDR, MC, USNR, FS*
Assistant Professor of Psychiatry

James M. Madsen, MD, MPH, COL, MC-FS, USA*
Associate Professor of Preventive Medicine and Biometrics
Scientific Advisor, Chemical Casualty Care Division, US Army Medical Research Institute of Clinical Defense (USAMRICD), APG-EA

Deborah Omori, MD, MPH, FACP, COL, MC, USA*
Associate Professor of Medicine

Michael J. Roy, MD, MPH, FACP, LTC, MC*
Associate Professor of Medicine
Director, Division of Internal Medicine

Jamie Waselenko, MD, FACP**
Assistant Professor of Medicine
Assistant Chief, Hematology/Oncology
Walter Reed Army Medical Center
Washington, DC

Guest Faculty

Ronald E. Goans, PhD, MD, MPH*
Clinical Associate Professor
Tulane University School of Public Health & Tropical Medicine
New Orleans, LA

Sunita Hanjura, MD*
Rockville Internal Medicine Group
Rockville, MD

Niranjan Kanesa-Thasan, MD, MTMH*
Director, Medical Affairs & Pharmacovigilance
Acambis
Cambridge, MA

Jennifer C. Thompson, MD, MPH, FACP*
Chief, Department of Clinical Investigation
William Beaumont Army Medical Center
El Paso, TX

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Psychiatric Sequelae in a Survivor of 9/11

CASE AUTHORS: Molly J. Hall, MD, Col, USAF, MC, FS
Derrick Hamaoka, MD, Capt, USAF, MC, FS

DISCLAIMER

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In accordance with requirements of the FDA, the audience is advised that information presented in this continuing medical education activity may contain references to unlabeled or unapproved uses of drugs or devices. Please refer to the FDA approved package insert for each drug/device for full prescribing/utilization information.

INSTRUCTIONS

The questions that appear throughout this case are intended as a self-assessment tool. For each question, select or provide the answer that you think is most appropriate and compare your answers to the key at the back of this booklet. The correct answer and a discussion of the answer choices are included in the answer key.

In addition, a sign is provided in the back of this booklet for posting in your office or clinic. Complete the sign by adding your local health department's phone number.

Psychiatric Sequelae in a Survivor of 9/11

CASE AUTHORS: Molly J. Hall, MD, Col, USAF, MC, FS
Derrick Hamaoka, MD, Capt, USAF, MC, FS

INTENDED AUDIENCE

Mental health professionals including psychiatrists, psychologists, social workers, hospital chaplains, and other physicians who will provide evaluation and care in the aftermath of a terrorist attack or other public health disaster

EDUCATIONAL OBJECTIVES

Upon completion of this case, participants will be able to:

- Discuss the common psychiatric sequelae to victims directly and indirectly exposed to a mass disaster.
- Explain the recommendations for parents regarding their children's viewing of television replays in the immediate aftermath of disaster events.
- List the possible long-term psychiatric sequelae that victims may develop after a terrorist event.
- Describe a generally recommended cognitive behavioral therapy protocol for the treatment of posttraumatic stress disorder.
- List the medications that have proven efficacy for the treatment of posttraumatic stress disorder.
- Discuss resilience and posttraumatic growth for victims exposed to a terrorist attack.

CASE HISTORY

You are a psychiatrist in the larger Manhattan area. One of your internal medicine colleagues refers a patient, Mr. Daniels, for an intake appointment. It has been almost a year since the World Trade Center disaster. Your colleague conveys that Mr. Daniels originally presented with vague constitutional complaints, which included insomnia, fatigue, anxiety, irritability, and a "detached" attitude. The medical workup was negative, and Mr. Daniels continues to experience these symptoms as well as occupational and relationship problems.

Mr. Daniels arrives for the intake appointment on time. He reports continuing symptoms of low energy, insomnia, anxiety, irritability, and "indifference," attributing them to the increasing demands of his job, noting that it is "no big deal." He states

that the workload has increased because of his company's plan to move back to the original office building near the World Trade Center. He almost dismissively comments on another reason for the increased workload — many of his colleagues died in the World Trade Center collapse. He states that he is "picking up the pieces" and that it is his "duty to work extra hard" because he is lucky; he missed his usual subway train into the city on September 11th. The company has also made plans to unveil a memorial to his deceased coworkers. Mr. Daniels feels that this will be "too constant a reminder" of his missing coworkers.

Mr. Daniels describes a "bout of depression" and "overall, being really anxious" while in college; however, he did not seek treatment at that time. He also reluctantly admits to drinking 3 to 4 beers every evening. He wishes he did not have to use alcohol, but feels that it "takes the edge off" and helps him sleep at night. Furthermore, he describes feeling better when he is alone, barely tolerates distractions, such as his children, and no longer goes out with friends or attends social functions. His wife has told him that he has changed since the event, saying that he is "tough to be around now." Partners at the firm have also commented on his job performance, and major clients are asking to be reassigned. Clients cited a change from a once "top-notch" and amiable lawyer to one that now "lacked sufficient attention to detail" and was occasionally argumentative. He admits it was difficult to come to this appointment and he did not know what to expect. His expectation was to be "medicated with psychiatric drugs."

COMMENT: Following a major disaster or terrorist event it is common for patients struggling with psychological symptoms to present to primary care facilities. The most common disorders that develop in the wake of such events are:

- depression
- anxiety
- somatization
- substance abuse problems
- increased family or domestic conflict

Posttraumatic stress disorder (PTSD), the disorder we typically associate with traumatic events may also develop. As in the above narrative, it is common for these patients to be seen first in a primary care setting. Providers should be aware that increased substance use and familial discord may also be present.

Posttraumatic stress disorder is an anxiety syndrome that affects survivors and witnesses of traumatic events. Posttraumatic stress disorder involves 3 symptom clusters, which together cause impairment in the interpersonal, social, and occupational functioning of affected individuals.

The first cluster involves re-experiencing of the traumatic events. The re-experiencing of the event can occur in a number of ways, including:

- intrusive recollections
- recurrent dreams
- feeling as if the event was actually recurring.

Other ways the trauma can be re-experienced include responses to cues that remind the individual of the trauma such as:

- psychological responses, eg, panic, fear
- physiological responses, ie, palpitations, sweating

Posttraumatic Stress Disorder involves 3 symptom clusters, which together cause impairment in the interpersonal, social, and occupational functioning of the affected individuals.

1. Re-experiencing the traumatic events
2. Avoidance behaviors
3. Hyperarousal symptoms

The second cluster involves avoidance behaviors, including avoiding reminders of the people, places, and activities associated with the trauma. In addition, within this same cluster, those people affected may experience:

- diminished interests
- sense of detachment
- sense of foreshortened future
- an inability to recall important aspects of the trauma.

The third cluster involves hyperarousal symptoms, including:

- insomnia
- irritability
- problems with concentration
- increased startle response
- hypervigilance

QUESTION 1

Given Mr. Daniels' presentation, what would be the most appropriate intervention?

a. Normalize feelings, assist with insomnia, and recommend abstaining from alcohol
b. Arrange for inpatient hospitalization
c. Excuse from work for the next 2 weeks
d. Start antidepressant medication immediately

Reminder: You can find the Answer Key & Discussion on page 9.

On the follow-up appointment, Mr. Daniels appears less anxious. He reports improved sleep with the trazodone you prescribed at the end of his first appointment and he has abstained from drinking alcohol in the interim period. Work continues to be especially difficult; he specifically cites the upcoming memorial dedication as bothersome. There have been constant daily reminders of the disaster, such as posters, fliers, and internal company email traffic, highlighting the upcoming dedication.

On questioning, Mr. Daniels recalls his original reaction to the attacks. He describes feeling numb initially and that "things appeared to slow down." This was followed by disbelief — not being entirely certain that the attacks were real, although he knows this doesn't make sense. He then realized how fortunate he was to have missed the train into the city that morning. He remembers being "worried sick" and "frantic" about the well-being of his wife and children, who had left earlier in the morning. He states in passing, "I must have called my wife's cell phone and work number a million times before I got through." Feeling helpless, dismayed, and confused, Mr. Daniels relayed not knowing what to do immediately after the event. He vacillated between thoughts of action and inaction. "Should I go into work and see what I can do? Would it be better for me to stay at home? What other places are going to be hit next? Is New York even safe?"

COMMENT: The above account describes some of the acute reactions people may experience after a disaster. Along with the initial shock and horror, there may be a sense of disbelief, a sense of derealization, dissociation, panic, a feeling that "time is slowing down," and intense worry about personal safety, and the safety of loved ones.

Immediately following a disaster, there are some early interventions that can be effectively employed. These "psychological first aid" interventions* include:

- attention to basic needs
- normalizing sleep-work cycles
- providing sufficient rest
- facilitating reunions of families
- providing information and education
- limiting exposure to media reports and distressing images

* For additional information regarding psychological first aid, see another case in this series, *Emergency Mental Health After a Suicide Bombing* by David Benedek, MD, LTC, MC, USA.

Mr. Daniels notes that "everything seemed to be on hold for weeks after the attacks." New business stopped coming in, and he found himself having more time to dwell on the attacks and what might have happened to him had he made it to work on time. He wondered if he could he have saved some of his coworkers or if he would have been killed, too. During this time, he continued watching television, which repeatedly replayed video of the jets striking the buildings and of the buildings collapsing. He remembered not being able to turn off the television, even though he became increasingly distressed with the unedited visual and audio replays. In fact, his children were watching the television replays with him. He did not want to "shield them" from what was going on because they knew something was wrong, but he wondered about how this might be affecting them.

COMMENT: Technology and immediate news coverage added another dimension to the September 11th terrorist attacks. For days and weeks after September 11th terrorist attacks, footage was replayed continually. Graphic images in the broadcasts included the planes crashing into the World Trade Center, people jumping or falling from the building, and the towers collapsing. Those who watched more television coverage were significantly more likely to report PTSD symptoms. Image and news content did not predict probable PTSD. The only associated variable was the amount of television coverage watched.[1] Because television viewing is an example of indirect exposure to a traumatic event, it is perhaps best thought of as a correlate of distress rather than as a measure of traumatic exposure.[2] While additional research will add to our understanding of the media's impact, there is a general consensus that there are groups of vulnerable people whose exposure to television news should be limited. These include children and those who were directly exposed to the traumatic event.[3]

After returning to work a couple of weeks after the World Trade Center attacks, the firm held an informational briefing in which the facts, losses, and relocation of the company were presented. Mr. Daniels thought the briefing was "kind of detached and emotionless." The law partners also encouraged employees to get additional help and informed the group of available counseling. Mr. Daniels grinned because, at that time, he never thought that he would need it. He knew coworkers who had been killed and two closer friends with whom he regularly had lunch had died. Some of his coworkers did not return to work right away, in order to get "things straight." He recalled feeling a bit "weird" about coming into work and carrying on without some of his coworkers and friends. Anger and sorrow followed and he felt that he could do nothing to "correct this great wrong." To add to this burden, the company also had a mandatory follow-up debriefing session during which those who escaped the collapse were encouraged to recount their harrowing stories. Mr. Daniels related that this only made him feel more isolated and irrelevant.

COMMENT: One-time psychological debriefings do not prevent the development of psychological disturbances, such as PTSD, as indicated from the findings of randomized, controlled trials.[4-7] In fact, these one-time debriefings do not demonstrate improvement over natural recovery, eg, the outcome with or without the debriefing was the same. Although debriefing has been found to be of no proven benefit, the intervention is often well-received by many of those who were debriefed. Psychological debriefings, if utilized, should be conducted by well-trained personnel and participation should be voluntary. Voluntary participation is important because some people may be secondarily traumatized by hearing the disaster experiences of others.

Memorial services for the deceased were especially difficult. Mr. Daniels attended the memorial of a close colleague and found the experience wrenching. At that time, he decided not to go to any additional ceremonies. He felt extremely guilty but at the same time relieved about this decision.

Mr. Daniels thought he was "all right," except that he found himself frequently consumed with thoughts of the disaster. He constantly worried about his safety, as well as the safety of his wife and children. He did not suspect anything specifically wrong and identified the feeling as "being unsettled." He thought these feelings would pass, but they did not. As time progressed, he avoided talking about the deceased, the collapse of the Towers, and he avoided any activity that might bring back these memories. Mr. Daniels found that there were many things that reminded him of the event, just "little things here and there," and described feeling a visceral knot and nausea when there was something which even remotely reminded him of the event. In fact, he took over many client accounts that had belonged to deceased coworkers, which made it "just that much more terrible."

Mr. Daniels recalls that his father was diagnosed with PTSD years after he returned from Vietnam. When the psychiatrist suggests that Mr. Daniels is suffering from PTSD, Mr. Daniels thinks this is strange, because he does not think he is anything like his father. His father was irritable, distant, missed work, and had nightmares about being back in Vietnam. As a child, he remembers visiting his father at the local Veterans' Administration psychiatric hospital when these problems were at their worst. He recalled that his father was so disabled that he was not able to work and eventually became "100% disabled." While growing up, Mr. Daniels' family knew that talk of the war was something to be avoided. He commented, "It was like this huge minefield with my father — everyone had to be really careful not to upset him. Sometimes he thought he was still over there." He relayed the most stressful time while growing up was the Fourth of July; firecrackers, fireworks, and loud noises would put his father "over the edge."

COMMENT: Symptoms of PTSD have variable intensity, duration, and impact on functioning. Mr. Daniels experiences distress when confronting situations or cues that remind him of the disaster, seeks to avoid such reminders (memorials) and has some persistent hyperarousal (insomnia and irritability). Mr. Daniels' father experienced some of the more severe symptoms including intrusive recollections (nightmares and possible flashbacks), marked avoidance behavior (unable to go to work), and hyperarousal symptoms (exaggerated startle response and explosive anger). These symptoms, if not managed, can lead to multiple impairments such as interpersonal problems (relationship difficulties, marital conflict, divorce), substance use problems, and occupational problems (inability to advance, job loss). Depression, hopelessness, suicidal ideation in combination with alcohol and substance abuse may require inpatient hospitalization for stabilization.

When he thought about it, he wondered if some of his coworkers were suffering from PTSD. He noticed that some were conspicuously missing from work. Many of them were taking more sick days, and were isolative, irritable, becoming emotional every time the subject of the disaster was raised.

At the close of this appointment, Mr. Daniels decided that talking with a psychiatrist about his reactions to the World Trade Center attacks was helpful. He inquires about other treatments that might be useful. He understands there are medications available. However, he does not want to start medication now, particularly as he is beginning to feel some relief.

QUESTION 2

Which medication(s) would be indicated for the treatment of posttraumatic stress disorder?

a. Amitriptyline
b. Sertraline or Paroxetine
c. Buproprion
d. Lorazepam

QUESTION 3

Which form of psychotherapy has most consistently demonstrated efficacy in clinical research studies of PTSD?

a. Hypnosis
b. Interpersonal Psychotherapy
c. Cognitive Behavioral Therapy (CBT)
d. Eye Movement Desensitization and Reprocessing (EMDR)

Mr. Daniels agreed to start cognitive behavioral therapy (CBT). The therapy took place over 12 sessions, each lasting approximately 60 minutes. Through the course of therapy, Mr. Daniels was educated regarding his symptoms. He was also taken through prolonged imaginal exposure (exposure therapy). This particular technique had Mr. Daniels provide personal, in-session narratives of all relevant details of his experience, including detailed sensory cues and his affective responses. Through this experience, he was able to identify and examine his automatic negative thoughts and assumed views surrounding his traumatic memories. He was able to challenge the assumptions regarding threats, safety, and his view of the world following the disaster. Also, he was able to incorporate management tools for anxiety control in his daily life that he learned to use in the therapy sessions while he was recounting his experiences.

COMMENT: The paragraph above describes a course of CBT for PTSD. Within the context of this time-limited therapy, the aim is to normalize feelings and reactions, provide anxiety management tools (such as deep muscle relaxation and deep breathing techniques), and promote imaginal exposure (recounting the trauma through verbal and written accounts). Cognitive behavioral therapy strategies are utilized to develop new cognitive schema that dispute previous automatic thoughts and assumptions resulting from trauma.[8]

Mr. Daniels did well with the course of therapy. His symptoms decreased significantly, his relationships at work and at home improved, and he started to feel like "things were settling back in their place." Although he didn't know what he felt for certain, he expressed feeling "different" as a result of the experience. When he tried to describe it, he conveyed feeling more appreciative, more careful, more adaptive, and increasingly attuned to things that he had never given much prior thought. For example, in one of his final sessions, he expressed thinking that he "wanted to do more" and had considered practicing civil rights law, which was something he had not thought about since law school. At the conclusion of his treatment, he felt thankful for the assistance and felt like he could now move on with his life.

COMMENT: Researchers have attempted to identify qualities that would predict that a person would be more resistant to the negative psychological sequelae of traumatic experiences. Some of these factors include altruism, optimism, working effectively despite fear, and ability to bond with a group toward a common goal.[9]

Researchers have also examined the dimension of growth and adaptation after experiencing a traumatic event, often referred to as posttraumatic growth. The individuals who experience posttraumatic growth describe positive changes through dealing with the trauma and the aftermath. Posttraumatic growth is believed to develop over many areas, ranging from improvement in an individual's sense of self, positive changes in one's relationships, and positive changes in spirituality.[10]

The risk of developing PTSD is highest in those individuals who are directly exposed to high magnitude, severely disturbing events (see table). These individuals may or may not have other risk factors, such as a preexisting psychiatric condition or recent negative life events. Studies of the impact of September 11th have shown that distress and ongoing stress symptoms are not predicted simply by the degree of traumatic exposure, extent of physical injury, or other loss. Individuals not directly exposed may suffer as much as those directly affected.

Table. Factors for Increased Risk of Developing PTSD

- Directly exposed to the trauma/event
- Previous exposure to trauma, particularly in childhood
- Familial factors, such as parental PTSD
- Family history of depression and anxiety
- Premorbid psychiatric illness
- Acute losses
- Negative life events after the trauma
- Female gender

ANSWER KEY & DISCUSSION

QUESTION 1

Given the above presentation, what would be the most appropriate intervention?

a. Normalize feelings, assist with insomnia, and recommend abstaining from alcohol
b. Arrange for inpatient hospitalization
c. Excuse from work for the next 2 weeks
d. Start antidepressant medication immediately

ANSWER: The correct answer is a. It is important to normalize feelings by acknowledging that the past year has been very stressful and provide empathic support. Addressing prominent issues, such as problems with sleep (with a non- benzodiazepine agent, such as trazodone), would also help build rapport. Identifying the overuse of alcohol as a problem that contributes to insomnia, fatigue, and depression is important.

Mr. Daniels is not currently suicidal, homicidal, or severely impaired with regard to functioning. If any one of these were present, then arranging for inpatient hospitalization would be an option. These issues are important to explore in all mental health assessments.

Keeping him from work and other regular activities would be detrimental. This would reinforce avoidance behavior and the lack of structure might exacerbate other symptoms such as guilty thoughts about the death of coworkers.

Starting antidepressant medication immediately might be an option; however, it would be helpful to know if he can cut down on his alcohol use before prescribing an antidepressant. Characterizing the alcohol problem first is important. Exploring his assumptions/expectations of visiting a psychiatrist is also warranted.

QUESTION 2

Which medication(s) would be indicated for the treatment of posttraumatic stress disorder?

a. Amitriptyline
b. Sertraline or Paroxetine
c. Buproprion
d. Lorazepam

ANSWER: The correct answer is b. Both of these medications have been FDA-approved for the treatment of PTSD. These medications are selective serotonin reuptake inhibitors (SSRIs); other medications within this class are citalopram and fluoxetine. All of the SSRIs are used and are likely to be similarly effective. These medications also have an added advantage of treating other anxiety disorders and depression. They are generally well-tolerated. Potential side effects include gastrointestinal upset and mild sedation that is usually transient, and sexual dysfunction that unfortunately persists.

Amitriptyline is a tricyclic antidepressant with multiple side effects including sedation, weight gain, and prolongation of cardiac conduction time. It is highly lethal in overdose and has cross reactivity with alcohol. Although PTSD symptoms may respond to tricyclics they are rarely used as a first-line treatment.

Buproprion is an antidepressant that would be most suitable for primary treatment of major depressive disorder. It has the advantage of minimal to no sexual side effects but has no anxiolytic or anti-panic activity. It would not be indicated for PTSD, although it may be helpful as an adjunct to manage associated comorbid depression.

Lorazepam is a short-acting anxiolytic that might initially decrease some of the hyperarousal symptoms. However, it may be abused by those with a history of chemical dependence and does not treat the symptoms of PTSD.

QUESTION 3

Which form of psychotherapy has most consistently demonstrated efficacy in clinical research studies of PTSD?

a. Hypnosis
b. Interpersonal Psychotherapy
c. Cognitive Behavioral Therapy (CBT)
d. Eye Movement Desensitization and Reprocessing (EMDR)

ANSWER: The correct answer is c. This is the most studied psychotherapeutic modality for PTSD and has been found to be an effective treatment. Protocols typically offer the traditional cognitive and behavioral approach and techniques. Many also include exposure therapy, which utilizes repeated and detailed imaging of the traumatic experience in a safe setting. The goal is to have the person face the experience and gain control of the responses and reactions to the trauma.

Although hypnosis may serve as an adjunctive treatment, it is not well-studied in patients with PTSD and has not proven to be efficacious as a primary treatment. Interpersonal psychotherapy as a time-limited therapy may have some usefulness in PTSD, but is not the most well-studied psychotherapy for the treatment of this disorder. This modality focuses on conditions (such as depression) caused by grief (loss), role disputes, role transitions, and interpersonal deficits.

There are small studies demonstrating the efficacy of eye movement desensitization and reprocessing (EMDR) for the treatment of PTSD; however, this is not the most well-studied psychotherapeutic intervention for this disorder. This therapy combines elements of cognitive behavioral therapy, exposure therapy, and eye movements in order to stimulate the brain's information processing centers. Further study is needed in order to clearly identify the effective subcomponents of this therapy (ie, to determine whether eye movements are necessary for the efficacy of this therapy).

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SUGGESTED READING

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Terrorism and Disaster

WHAT CLINICIANS NEED TO KNOW

Rush University Medical Center faculty, in collaboration with faculty from the Uniformed Services University of the Health Sciences (USUHS) authored a case series to provide continuing medical education (CME) for terrorism preparedness and other public health emergencies.

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