The Pathophysiology of Fibromyalgia: Diagnosis and Treatment

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Abstract: Fibromyalgia (FM) is a chronic disease with unexplained pain in the muscles and joints of the patient. In other words, the fibromyalgia is a connective tissue rheumatoid arthritis. In most cases, women aged 20 to 50 years are more likely to suffer from fibromyalgia than men. The main cause of fibromyalgia is not known but the various reasons that can cause the fibromyalgia are genetics, infection and physical or emotional shock. One of the important symptoms of the fibromyalgia is widespread pain throughout the body such as shoulder, head, arms, abdominal areas and etc. The fibromyalgia syndrome can affect all systems of the body including the bladder. Patients especially women who suffering from the fibromyalgia experience a painful bladder syndrome and problems with chronic bladder infection. Some of the urinary and pelvis disorders in patients with fibromyalgia are bladder incontinence, urinary frequency, dysuria, painful sexual intercourse and interstitial cystitis. The physician can just find the origin of fibromyalgia with the blood test and it’s not easy to diagnose this disease. The main symptoms of the fibromyalgia are pain and fatigue and these are common symptoms of other diseases including chronic fatigue syndrome, hypothyroidism and arthritis so there are no laboratory tests or X-rays to diagnose the fibromyalgia. Fibromyalgia treatment can be divided into four general categories include: the medicinal therapies such as lyrica, cymbalta, savella, anti-inflammatory drugs, anti-depressants, etc. Non-pharmacological treatment of fibromyalgia such as biofeedback, cognitive behavioral therapies, physiotherapy, electromyogram, etc. The third group of treatment is the alternative treatment of fibromyalgia such as chiropractic, deep tissue massage, meditation, etc. The last group of treatment is the electrical treatment of fibromyalgia such as the systolic extinction training, transcutaneous electrical nerve stimulation and cranial electrotherapy. Some of the effective treatment for urinary incontinence include: physiotherapy for muscle straddle pelvis, kegel exercises, an electrical stimulator, surgery, bladder training, pessary, catheterization and etc.

Keywords: Fibromyalgia, Diagnosis and Treatment Fibromyalgia, Urinary and Pelvic Symptoms, Urinary Incontinence, Painful Bladder Syndrome

1. Introduction

The fibromyalgia is a connective tissue rheumatoid arthritis and is present in all countries, races, and in all climate areas. About 10% to 12% of the population suffer from this disease. The main cause of fibromyalgia is not known. The people suffering from fibromyalgia have a low pain threshold.

The fibromyalgia has many symptoms that vary from person to person. One of these symptoms is widespread pain throughout the body. The fibromyalgia syndrome can affect all systems of the body including the bladder. Patients suffering from fibromyalgia experience a painful bladder syndrome (PBS) and problems with chronic bladder infection.

There are no laboratory tests or X-rays to diagnose the fibromyalgia. For the treatment of fibromyalgia, the drug helps reduce pain, exercise regularly, stretching, walking, swimming, cycling and water sports reduces the symptoms of fibromyalgia. Some electrical stimulation used to treat fibromyalgia such as cranial electrotherapy stimulation (CES) and transcutaneous electrical nerve stimulation.

Physiotherapy for muscle straddle pelvis, kegel exercises, an electrical stimulator, surgery, bladder training, botox and catheterization are effective treatments for urinary problems.
2. History of Fibromyalgia

Although fibromyalgia is known as a fad diagnosis or new disease, it is not really a new disease. While in the medical community is still not accepted and its acceptance is still not universal, fibromyalgia has taken a long way and recent research has shown that physiological illness is very real [1-4].

Fibromyalgia

The fibromyalgia (FM) is a chronic disease with unexplained pain in the muscles and joints of the patient. The fibromyalgia is a connective tissue rheumatoid arthritis. This condition often causes pain at certain points on the body by pressing.

About 10% to 12% of the population suffer from this disease. Unfortunately, no structural or inflammatory causes have been found for this disease.

In most cases, women aged 20 to 50 years are more likely to suffer from fibromyalgia than men. Fibromyalgia is less common in younger adults and occurs between the ages 25 and 55.

The people suffering from fibromyalgia have a low pain threshold and the reason is due to increased sensitivity of the brain to pain symptoms [5-8].

2.1. Epidemiology of Fibromyalgia

The fibromyalgia is present in all countries, races and in all clime areas. The prevalence of this disease in the United States was reported in the 1990s by the diagnostic criteria of the American Rheumatology Association (ACR), 3.4% in women and 0.5% in mans. The fibromyalgia can be seen alone and can also be associated with another disorders including hypothyroidism, chronic headache, multiple drug allergies and premenstrual syndrome. Another rheumatologic disorders are rheumatoid arthritis (RA), systemic lupus erythematosus (SLE) or Sjögren syndrome (SS) [9-11].

2.2. Clinical Symptoms Related to Fibromyalgia

The main features of fibromyalgia disease are pain released in the soft tissue, which is mainly expressed by symptoms such as irritation, itching, etc. Symptoms of fibromyalgia are often accompanied by emotional stress and physical injury such as a car accident or an illness such as viral or bacterial infections which is associated with extensive musculoskeletal pain, fatigue, sleep disorders, and mood problems. It should be noted that some times, fibromyalgia begins without any symptoms. The fibromyalgia has many symptoms that vary from person to person. One of these symptoms is widespread pain throughout the body such as shoulder, head, arms, abdominal areas, etc. About 1 in 5 people suffering from fibromyalgia have restless legs syndrome. Another symptoms of fibromyalgia are urinary frequency, lyme disease (a bacterial arthritis disease), numbness and tingling of the hands and feet, throbbing and palpituation, sensitivity to smell and sound, paresthesia caused by numbness in hands and foot fingers, autonomic system disorders (low blood pressure as getting up from the ground, confusion and syncope) and endocrine system problems (See figure 1). The symptoms of fibromyalgia may be severe and weak depending on the time. Some cases such as fatigue, hormonal fluctuations such as premenstrual changes or during menopause, cold and climate changes, inactivity or excessive pressure on the body, stress, anxiety and emotional factors can exacerbate the symptoms of the disease. [12-16]

Figure 1. The symptoms of fibromyalgia [17].

3. Causes of Fibromyalgia

There is still no specific cause or in other words, the main cause of fibromyalgia is not known and unfortunately it has caused the disease to not be taken very seriously. The various reasons that can cause the disease include:

A. genetics: the fibromyalgia is commonly seen in the family.
B. infection: apparently, some of the symptoms are a start factor or an exacerbation factor of fibromyalgia.
C. physical or emotional shock such as accidental injury (accidental driving) and frequent abnormalities, post-traumatic stress disorder is associated with fibromyalgia. [18-21]

The researchers believe that the brain of people suffering from the fibromyalgia changes with a neurostimulation. This change requires an increase in the level of certain chemicals that signal the pain in the brain (neurotransmitters). Apparently, nociceptive in the brain also become more susceptible to pain memory, which means they can show a high sensitivity to the pain signals.

Risk factors of fibromyalgia include:
1. gender: the fibromyalgia in women is diagnosed more often than men. The women aged 20 to 50 years are the most affected.
2. family history: the possibility that your family has an illness and you are more likely to have it.
3. Rheumatism disease: if you suffer from rheumatism such as rheumatoid arthritis or lupus erythematosus (tuberculosis), the risk of fibromyalgia may be greater.

**Diagnosis of Fibromyalgia:**

Unfortunately, it takes years for some people with fibromyalgia to be properly identified. This may happen for several reasons. The main symptoms of this disease are pain and fatigue. These are common symptoms of other diseases, including chronic fatigue syndrome, hypothyroidism and arthritis (joint inflammation).

At present, there are no laboratory tests or X-rays to diagnose the fibromyalgia. It may take time for your doctor to understand all the symptoms and refuse other health problems, and can give you a correct diagnosis. As part of this process, your doctor may consult with a rheumatologist.

The physician with the blood test that include blood cell count, erythrocyte sedimentation rate (RBC), thyroid function test can find the origin of fibromyalgia.

Radiologic and laboratory tests are not generally reliable, but they are helpful in dispensing other disorders. The main tests are CBC, ESR, standard biochemistry tests, and thyroid function tests.

Due to the possibility of multiple mendacious positive cases as a result of the test, RF, ANA and lyme antibodies should be investigated only in patients with high clinical suspicion. Radiological studies should also be performed in patients with evidence of arthritis or radiculopathy [22-24].

**4. Fibromyalgia Treatments**

Fibromyalgia treatment can be divided into four general categories. The first group of treatment is the medicinal therapies, three types of medicine used to treat fibromyalgia by US Food and Drug Administration include: lyrica (pregabalin), cymbalta (duloxetine), savella (milnacipran). These types of medications may be expensive and also have side effects, including psychological problems. In other words, treatment of fibromyalgia is not just a medication, it depends on a kind of life.

Furthermore, anti-inflammatory drugs, anti-depressants include:

- **Elavil (amitriptyline),**
- **Duloxetine (cymbalta),**
- **Milnacipran** can help to reduce the pain and fatigue associated with fibromyalgia. Analgesics, CNS stimulants, gabapentin (neurontin, gralice) are used to treat fibromyalgia. Ataractic, over-the-counter prescription drugs such as acetaminophen, ibuprofen or naproxen sodium can be helpful for treatment fibromyalgia. Anticonvulsants, often medicines used anticonvulsants to treat epilepsy and it is effective in reducing certain pains. The doctor may also prescribes amitriptyline or fluoxetine (prozac) to help improve sleep condition of patients [25, 26].

Perhaps the doctor may want to prescribes ataractic such as tramadol (ultram), it is not recommended to use narcotic drugs as it may be addictive and may be exacerbate the pain for a long time [27-28].

The second group of treatment is the non-pharmacological treatment of fibromyalgia. Non-medical therapies for fibromyalgia that have been examined in controlled studies include: biofeedback, cognitive behavioral therapies (CBT), physiotherapy, electromyogram, increasing muscle strength, exercise, activity and balneotherapy.

Physiotherapy affects muscle cramp and pain in fibromyalgia. Patients with regular referral to a physiotherapist can increase self confidence by exercise. Physiotherapy also makes the muscles relax and provides more information for patient about the body.

Exercise is essential for maintaining the strength and flexibility of the muscles, control the weight and help with the continuation of activities in other areas of life. In fact, exercise and activity allow patients to control fibromyalgia and pain sensation. The patient should consider three different types of exercise include: stretching exercises, endurance or positional exercises and strength exercises [29-33].

The third group of treatment is the alternative treatment of fibromyalgia.

Some people suffering from fibromyalgia feel relaxed with alternative therapies. These treatments include:

- **Acupuncture:** based on some research findings, acupuncture can change brain chemistry and help increase pain tolerance. Acupuncture causes changes in blood circulation and the amount of neurotransmitters in the brain and spinal cord and affects the improvement of patients.

- **Chiropractic:** to help pain levels improvement, relieve back pain and effects on increasing the waistline movement amplitude and neck.

- **Deep tissue massage:** stimulates circulation and releases chronic muscle tension patterns.

- **Neuromuscular massage:** this type of massage helps to reduce muscle pain or facial muscle (soft tissue) and is a combination of the main basic of ancient oriental treatment such as acupuncture and shiatsu.

- **Biofeedback:** according to National Health Institutions using electronic devices to measuring body stress responses helps a lot of patients control the response to stress and relieve chronic pain.

- **Meditation:** studies have shown that meditation produces brain waves in a relaxed and joyful manner, which helps reduce anxiety.

- **Herbal medicines:** few studies have been conducted on herbal remedies and fibromyalgia. Some people who eat herbal supplements like echinacea purpurea, black cohosh, lavender, silybum marianum, and group B vitamins have seen an improvement in sleep condition or increased energy.

- **Natural supplements:** some people with consumption normal supplementation such as amino acids HTP-5 increase the production of serotonin, a kind of neurotransmitter that acts as a natural healing agent in the body. Some studies show that this supplement can eliminate symptoms of fibromyalgia.

- **Melatonin:** this substance is effective for the better
sleep. Patients suffering from fibromyalgia say that their pain also decreases with melatonin consumption.

j. St. John’s wort, L-carnitine, SAM-e and probiotics also feeling calm to the patients. It should be noted that many supplements such as St. John’s wort have drug interactions, so if prescription drugs or multiple supplements are available to the patient, patient should avoid from using this supplements [34-37].

The fourth group of treatment is the electrical treatment of fibromyalgia.

Recent studies which done by a research team have shown that a specific cardiac cycle triggered electrical stimulation in conjunction with operant-behavioral pain treatment (OBT) can regulate the abnormal relationship between blood pressure (BP) and pain in patients with fibromyalgia and chronic pain. This group presents the systolic extinction training (SET) electrical stimulation design that is performed during the diastolic or systolic cycles of the heart. According to this research the goal of the stimulation is to effect the connection between triggered pain-stimuli and blood pressure. For the SET stimulation the complex trigger processes the ECG signal and predicts when the minimum and maximum blood pressure pulse wave at the arterial baroreceptor using a 3-lead derivation by Einthoven, there are lead systems that make up the standard ECG (see figure 2) [38, 39].

Occasionally, a remedy for local or regional pain is transcutaneous electrical nerve stimulation (TENS). Since the fibromyalgia pain is not limited to a specific region and area, TENS therapy is commonly not used as a treatment, but some studies have shown that TENS may be effective for reducing pain in people suffering from fibromyalgia, especially in combination with other treatments such as exercise. Pending TENS therapy, electrodes which can help control or reduce some types of pain, deliver electrical impulses to nearby nerve pathways [40-43].

Electrotherapy is often recommended to treat the numerous fibromyalgia symptoms. Electrotherapy is a therapeutic method that uses electrical impulses to improve symptoms of pain, reduce muscle pain and depression in patients. Electrotherapy gives a small pulsating current to the muscles and the nerve ending. This current causes the muscles to be contract and then calm down and relax. Repetitive irritations cause muscles to be strengthened, relax and less pain [44].

The use of electrical stimulation to relieve physical and emotional distress is not a new phenomenon. Electric stimulation treatments are new technologies that are safe and easy to use. Cranial electrotherapy stimulation (CES) and micro-current electrotherapy (MET) are some example for electric stimulation treatments. CES devices deliver modified square wave biphasic stimulation through electrodes placed on the patient's ear lobes. A CES session lasts between 20 and 60 minutes. The CES reduced the average pain and decreased activity in the regions of the pain processing in the brain [45-47].

Food and Useful Vitamins in Fibromyalgia:

Note that nutrients and beneficial vitamins should be taken under the supervision of a doctor.

- GABA neurotransmitter: used for better sleep.
- Malic acid: which exists in apple, fatigue and muscle aches annihilator.
- Magnesium: to generate energy and eliminate fatigue.
- Vitamin D: to strengthen the muscles and reduce muscle pain.
- Vitamin B3: to improve blood circulation and reduce pain.
Vitamin B12: fatigue annihilator.

Coenzyme Q10: improve immune system function and deliver oxygen to tissues and reduce pain.

Capsaicin: the combination that exists in chili pepper and similar plants. Patients who suffering from fibromyalgia should not use nourishment that can cause swelling, but capsaicin is an exception, because it reduces the pain of the joints and lowers the swelling. It can be used primarily to reduce pain in the form of ointment.

Paprika: to improve blood flow and reduce pain.

5. Symptoms Related to Fibromyalgia

The fibromyalgia syndrome can affect all systems of the body including the bladder. Patients suffering from fibromyalgia experience the condition which may be recognized as a painful bladder syndrome (PBS) and problems with chronic bladder infection.

5.1. Urinary and Pelvic Symptoms in Fibromyalgia

The complaints of fibromyalgia patients from urinary and pelvic problem are common symptoms of fibromyalgia, especially in women suffering from fibromyalgia (see figure 3). The bladder incontinence, urinary frequency, dysuria and painful sexual intercourse are just a few of the urinary and pelvic disorders in patients suffering from fibromyalgia [48-50].

As noted, the main symptoms of this disorder are: muscle and joint pain, chronic fatigue, depression and etc. People with fibromyalgia syndrome are prone to get a wide range of other symptoms, such as bladder problems and pelvic area. These symptoms may exist for patients all day long or through menstrual cycles, stress or a diet may be triggered.

Some common urinary problems that affect people suffering from fibromyalgia include:

a) urinary Frequency: the urinary frequency and abdominal distension are very common among patients suffering from fibromyalgia, especially among the women. As mentioned, some people suffering from fibromyalgia syndrome find they should usually wake up during the night to go to the bathroom and get to the toilet regularly throughout the day. Some of these patients find that they need to urinate every 20 minutes that they go to the bathroom. Urinary frequency causes a disorder in Patients sleep patterns, because it usually causes that patient to wake up and go to the bathroom.

Symptoms of urinary frequency that is seen among patients suffering from fibromyalgia include: feeling the need for urination constantly, problem in keeping urine, going to the bathroom to urinate more than once during the night, pelvic pain or pain during urination and urgent urination. This sign often coincides with the urinary tract infection and urinary frequency [52, 53].

b) urinary urgency: urinary urgency means urgent need to urinate. Symptoms of urinary urgency include: urinary frequency, sudden and urgent need for urination, pain or pelvic discomfort and incontinence [54].

c) urinary incontinence: urinary incontinence is a term that describes any condition that makes bladder control difficult. Obviously life is not easy in this situation. Urinary

Figure 3. The male and female bladder [51].
incontinence is usually thought to be something that causes a person suddenly urinate or wet his/her trousers, but it's not exactly right. Urinary incontinence is more like a weak control of the muscles that control the bladder.

There are different kinds of incontinence include the following (see figure 4):

1) **Overflow incontinence**: urine drips constantly from a bladder that is overfilled. This condition occurs in people with bladder obstruction (benign prostatic hyperplasia, prostate cancer or urinary tract constriction) or when the muscle that urine draws from the bladder is too weak to empty the bladder normally. Excessive incontinence may be a side effect of certain medications [55-57].

2) **Urge incontinence**: this is when the urge to urinate happens only seconds before urinating. Urgency incontinence (overactive bladder) is more common in older women. In addition to the overflow urine has a sense of urgency in urinating, meaning that it does not have the ability to keep urine for even a few moments (See figure 5).

3) **Stress incontinence**: when there is pressure to the lower abdomen that causes urine to leak out. Stress incontinence is affiliated with activity and is the most common type of incontinence among women, especially young women. When the abdominal pressure is increased by the events, the bladder is pressurized and the urethra does not hold on to the urine and the urine overflows unaware (see figure 6). Cough, sneezing, laughter and activities such as long jumping and long walking are events that make this kind of incontinence (See figure 7) [55-57].
4) **Neurogenic incontinence**: the volume is high, the pressure is low and there are no contractions. It may result from peripheral nerve damage or spinal cord injury. Neurogenic incontinence is due to impaired functioning of the nervous system.

5) **Blurred incontinence**: when the person has both stress incontinence symptoms and urgency incontinence symptoms. This type of incontinence is more common in older women.

6) **Functional and transient incontinence**: this is normal bladder control but the person just cannot get to the bathroom in time as the result of illness or age. It is more common in older women. Factors such as a decrease in muscle, bone, muscle pain and vision weakness are involved in this and can be easily treated with the drug.

The cause of transient incontinence includes: intense confusion, urethra infection, atrophic Vaginitis (in menopausal women due to decreased estrogen hormone), taking some medications, psychopathy, excessive urine production (bladder filling), limitation on movement and stool density.

7) **Incontinence out of urethra**: urinary excretion from the pores except urinary meatus.

The Cause of incontinence out of urethra is congenital, there is less prevalence in which the urethra is usually placed in the vagina incorrectly. Mostly during infancy, mother declares that her baby’s diapers are always wet and is detected in this way.

Causes that increase Occurrence of urinary incontinence include the following:

I. Increasing the age,
II. pregnancy and accouchement (especially in the young
III. Overweight (increased pressure on the bladder),
IV. Bladder disorder (such as cytosol and ureterocele),
V. Taking some Medications-Diabetes (drink a lot and frequent urination),
VI. Stroke and spinal cord injury (do not keeping urine).

5.2. Effective Treatment for Urinary Incontinence

The patient should not live with urinary incontinence. Effective treatments for urinary problems include:
a. Physiotherapy for muscle straddle pelvis.
b. Kegel exercises, which augment pelvic floor muscle.
c. Regular physical activity to augment the bladder muscles.
d. An electrical stimulator, if these methods are not used effectively the doctor may use an electrical stimulator (see figure 8), which uses mild alcohol pulses in order to mitigate and augmentation the bladder muscles.
e. Surgery may also be delayed in the excretion of urine and better bladder protection to prevent incontinence.
f. Bladder training can be used for stress and incontinence. The purpose of bladder training is to increase the amount of urine and improve control on the urge to urinate.
g. Botox can be injected into the bladder muscle with the aim of calming the muscle and increasing its storage density.
h. Pessary device (see figure 9), a plastic device that enters the vagina and can help prevent leakage of the urine by supporting the bladder neck.
i. Catheterization (see figure 10), if the bladder is not empty due to nerve damage you may need to use a catheter. The catheter is a thin tube that is inserted into the urethra from the Bladder to drain urine. You can use a catheter once at a time, several times a day, or all the time [61-63].

Figure 8. The electrical stimulator for mitigate and augmentation the bladder muscles [64].

Figure 9. A pessary device to help prevent leakage of the urine [65].

Figure 10. Catheterization to drain urine [66].

d) Dysuria: sting sensation and pain during urination. Various causes can cause dysuria. The causes of these diseases are urinary tract infections and cystitis, kidney stones, bladder and prostate stones.
e) Interstitial cystitis (painful bladder syndrome): interstitial cystitis is also known as painful bladder syndrome (PBS). Fibromyalgia syndrome, chronic fatigue syndrome, as well as interstitial cystitis (IC) often accompany each other. Interstitial cystitis has many limitations in your life and similar to fibromyalgia syndrome (FMS) and chronic fatigue syndrome (CFS) associated with depression. The cause of urinary incontinence with fibromyalgia may be due to fatigue or weakening of the bladder muscle. Unfortunately, the main cause of bladder problems in people with fibromyalgia and interstitial cystitis such as cause of fibromyalgia syndrome, is still unknown. Anyone can suffer from interstitial cystitis, but it is more common in women of different ages with fibromyalgia or without it. Most women with fibromyalgia have a chronic urinary infection that may lead to incontinence. Symptoms of interstitial cystitis are similar to bladder infections, but there is no sign for infection. The interstitial cystitis is not bladder infection or urinary infection and it's not even become better when you take antibiotics (see figure 11).
In the interstitial cystitis, the signals that send the pelvic nerves to the brain are disturbed and with the smallest amount of urine in the bladder, it needs to be evacuated and the patient get frequent urination (see figure 12).

People suffering from interstitial cystitis may become incontinent, which in turn can be unpleasant and shameful and the patient needs to use protective clothing or special clothing.

Signs of interstitial cystitis include: pain and pressure in the pelvic, frequent urination sometimes 80-60 times a day, feeling that the bladder is not completely empty, pain during intercourse, sometimes pain in the genital and rectum, the urge to urinate even when the bladder is empty, vaginal or penis pain and metatarsus disorders [67, 68].
5.3. Diagnosis the Interstitial Cystitis

Primarily interstitial cystitis is diagnosed on the basis of symptoms. Before diagnosing, the doctor should discontinue any other possible symptoms.

Common tests for diagnosing the interstitial cystitis include:

a. Bladder biopsy.
b. Cystoscopy (bladder endoscopy).
c. Urine analysis (urinalysis).
d. Urine cytology, in order to diagnosis of cancer and inflammatory diseases in the urinary system.
e. Hydraulic pressure, the doctor may need to confirm the diagnosis an IC, by performing hydraulic pressure in which your bladder is full of water this allows the doctor to see the bladder walls to check for possible hemorrhage in people with IC [70].

5.4. Treatments for Interstitial Cystitis

Some of the effective treatments for interstitial cystitis are Kegel training or pelvic diaphragm training which is called a continuous contraction of the pelvic floor muscle and promotes the electrical stimulation of the pelvic floor muscle and other muscles and helps to urinary problems (see figure 13).

Another methods of treatment are change dietary patterns, weight loss especially in the abdomen, use of adult diapers and protective pads, some people use broccoli or cranberry extract.

Figure 13. The difference between strong and weak pelvic floor muscles [71].

Figure 14. CPAP therapy: flow generator, hose, full face mask [72].
Other way to treat interstitial cystitis is to use an elmiron capsule (pentosan poly-sulfate sodium) that protects the bladder wall and pentosan is used to eliminate bladder discomfort symptoms, known as interstitial cystitis. Other medications that doctors prescribe include antidepressants, muscle relaxant, antispasmodic (to reduce bladder spasms) and analgesics, antihypertensive drugs, diuretics, antidepressants, contraceptives, sleep medications, and oral estrogens. The fall of the oxygen level causes a respiratory response to wake up and begin to breathe again. People who suffering from sleep apnoea with a sudden movement often begin to cough or shiver. This stress reaction may cause the body to think that it is too fluid and makes urge to urination. Up to 80% of people suffering from fibromyalgia syndrome may have sleep apnoea. Treatment for sleep apnoea may be easily as changing the sleep position (sleeping on one side and not behind), weight loss or it may need to be treated with a continuous positive airway pressure (CPAP) device (see figure 14) which will operate the air under low pressure and keeps open the airways [73-76].

6. Conclusion

The fibromyalgia (FM) is a chronic disease with unexplained pain in the muscles and joints of the patient. The fibromyalgia is less common in younger adults and occurs between the ages 25 and 55 and in most cases, women aged 20 to 50 years are more likely to suffer from fibromyalgia than man.

The main features of fibromyalgia are pain released in the soft tissue. Symptoms of fibromyalgia vary from person to person and often are accompanied by emotional stress and physical injury which is associated with extensive musculoskeletal pain, fatigue, sleep disorders, and mood problems but sometimes, fibromyalgia begins without any symptoms. People with fibromyalgia syndrome are prone to get a wide range of other symptoms, such as bladder problems and pelvic area. The bladder incontinence, urinary frequency, dysuria and painful sexual intercourse are just a few of the urinary and pelvis disorders in patients suffering from fibromyalgia.

No structural or inflammatory causes have been found for this disease. Genetics, infection and physical or emotional shock are the various reasons that can cause fibromyalgia.

As it mentioned the main symptoms of fibromyalgia disease are pain and fatigue, these are common symptoms of other diseases such as chronic fatigue syndrome, hypothyroidism and arthritis therefor it takes years for some people with fibromyalgia to be properly identified. The physician with the blood test can find the origin of fibromyalgia.

Fibromyalgia treatment can be divided into three general categories include: medicinal therapies such as anti-inflammatory drugs, antidepressants, analgesics-CNS stimulants and Over the counter prescription drugs, non-pharmacological treatments such as biofeedback, Cognitive Behavioral Therapies (CBT), physiotherapy, electromyogram, exercise, activity and balneotherapy, alternative treatments of fibromyalgia such as acupuncture, chiropractic, deep tissue massage, neuromuscular massage, biofeedback, meditation, herbal medicines, natural supplements and probiotics. Another types of fibromyalgia treatments are electrical stimulation such as transcutaneous Electrical Nerve Stimulation (TENS), electrotherapy, Cranial Electrotherapy Stimulation (CES), and Micro-Current Electrotherapy (MET).

As it mentioned bladder problems and pelvic area are another symptoms of fibromyalgia so effective treatments for urinary problems are physiotherapy, Kegel exercises, surgery, bladder training, pessary device and catheterization.

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