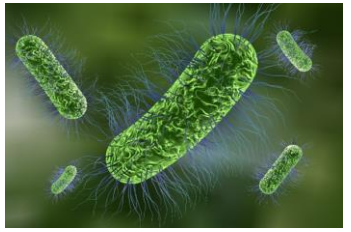
Practice guidelines of the French Multiple Sclerosis Society : « Urinary tract infections and multiple sclerosis »



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Question: Due to the intrinsic risk factors (neurologic bladder) and extrinsic factors (immunosuppressors treatments) in multiple sclerosis (MS) the risk of urinary tract infection (UTI) and predisposes to increase risk of morbidity-mortality. In addition, the immune response induced by UTI could provoke relapse or worsening neurological status, so the screening and treatment of UTI becomes part of the care of patients with this disease. Indeed, antibiotics resistance is presently a major preoccupation and requires precise indications to provide a cure or prophylaxis of UTIs by limiting the inappropriate consumption of antibiotics. For all these reasons the French Society for Multiple Sclerosis (SFSEP) proposed to establish practice guidelines.

Methods: The SFSEP carried out a systematic literature review using Pub Med and university databases from 01/1980 to 12/2019. The RAND/UCLA method (Haute Autorité de Santé, 2007) was used to synthesize the scientific literature and expert opinions in order to formalize an agreement for each proposal.

Results: UTIs are not associated with an increased risk of relapse or worsening of disability in MS patients. Only febrile UTIs are associated with an increased risk of transient worsening of disability. Some immunosuppressors increase UTI risk in MS and require special attention. Experts recommend treating UTIs according to the recommendations of the general population. The prevention of recurrent UTIs involves to stabilize the neurological bladder. In case of recurrent UTIs, complementary treatments and long-term antibiotic prophylaxis are not recommended, only the weekly oral cycling antibiotics can be offered after expert advice. Asymptomatic bacteriuria (BA) should not be screened or treated systematically in patients with MS, except in cases of pregnancy and invasive urological procedures. Before urodynamic evaluation, it is recommended to screen and treat BA only in case of known UTI risk factors.

Conclusion: These recommendations aim to provide the different players of the health care system (professionals, patients and users, decision-makers) with a robust synthesis of the state of the art and scientific data to help taking decisions on the choice of care, harmonizing practice, and reducing inappropriate treatments.

Question 1a: Are urinary tract infections associated with an increased risk of relapses, transitory and/or prolonged aggravation of disability in patients with MS?

1a. Urinary tract Infections are not associated with an increased risk of relapse in patients with MS (Level C)
1b. Non-febrile urinary tract infections are not associated with an increased risk of transient worsening disability in patients with MS (Expert recommendation)
1c. Febrile-urinary tract infections are associated with an increased risk of transient worsening disability of patients with MS (Expert recommendation)
1d. Urinary tract infections are not associated with an increased risk of prolonged disability aggravation in patients with MS (Level C)

Question 2: Is the risk of a urinary tract infection increased by treatments for MS?

2a. Interferon beta
Treatment with interferon beta is not associated with an increased risk of developing a urinary tract infection (Level B)
2b. Glatiramer acetate
Treatment with glatiramer acetate is not associated with an increased risk of developing a urinary tract infection (Level B)
2c. Teriflunomide
Treatment with teriflunomide is not associated with an increased risk of developing a urinary tract infection (Level B)
2d. Dimethylfumarate
Treatment with diméthylfumarate is not associated with an increased risk of developing a urinary tract infection (Level B)
2e. Fingolimod
Treatment with fingolimod is not associated with an increased risk of developing a urinary tract infection (Level B)
2f. Cladribine
Treatment with cladribine is not associated with an increased risk of developing a urinary tract infection (Level B)
2g. Mitoxantrone
Treatment with mitoxantrone is associated with an increased risk of developing a urinary tract infection (Level B)
2h. Natalizumab
Treatment with natalizumab is not associated with an increased risk of developing a urinary tract infection (Level B)
2i. Alemtuzumab
Treatment with alemtuzumab is associated with an increased risk of developing a urinary tract infection (Level B)
2j. Ocrelizumab
Treatment with ocrelizumab is not associated with an increased risk of developing a urinary tract infection (Level B), due to the effect of anti-CD20 the risk of infection was increased in cases of hypogammaglobulinemia (Expert recommendation)
2k. Cyclophosphamide (off label use)
Treatment with cyclophosphamide is associated with an increased risk of developing a urinary tract infection (Level B)
2l. Mycophenolate mofetil (off label use)
Treatment with mycophenolate mofetil is not associated with an increased risk of developing a urinary tract infection (Level B)
2m. Azathioprine (off label use)
Treatment with azathioprine is not associated with an increased risk of developing a urinary tract infection (Level B)
2n. Rituximab (off label use)
Treatment with rituximab is associated with an increased risk of developing a urinary tract infection (Level B)
2o. Plasma exchange (off label use)
Treatment with plasma exchange is not associated with an increased risk of developing a urinary tract infection (Level C)
2p. Methylprednisolone
Treatment with high doses of methylprednisolone is not associated with an increased risk of developing a urinary tract infection (Level C)
2q. Fampridine
Treatment with fampridine is not associated with an increased risk of developing a urinary tract infection (Level B)

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3. Should MS patients be treated for: symptomatic bacteriuria (urinary tract infection), asymptomatic bacteriuria (colonization), asymptomatic bacteriuria (colonization) before treatment with immunosuppressors, asymptomatic bacteriuria (colonization) before urodynamic evaluation, asymptomatic bacteriuria (colonization) in patients with urinary catheter?

3a. Symptomatic bacteriuria (urinary tract infection)?
It is recommended to treat symptomatic bacteriuria in MS patients in the case of a neurologic bladder or not and whatever the voiding mode (voluntary/catheterization). Treatment of symptomatic bacteriuria follows the recommendations for the general population (Level A)
Prevention of recurrent urinary tract infections with alternative complementary medicine has not been established (level B)
The interest of treating urinary tract infection in spinal cord injury with weekly oral cycling antibiotics has been established .By analogy, this approach can be considered for patients with MS in the case of recurrent urinary tract infections after obtaining specialist advice (Expert recommendation)
3b. Asymptomatic bacteriuria (colonization)?
Screening and systematic treatment of asymptomatic bacteriuria (colonization) in patients with MS is not recommended, with the exception of situations recommended for the general population (pregnancy, invasive urological procedure) (Level C)
3c. Asymptomatic bacteriuria (colonization) before treatment with immunosuppressors?
Screening or systematic treatment of asymptomatic bacteriuria (colonization) before treatment with immunosuppressors of patients with MS are not recommended except in the case of hypogammaglobinemia (Expert recommendation)
3d. Asymptomatic bacteriuria (colonization) before urodynamic evaluation?
Screening and treatment of asymptomatic bacteriuria (colonization) before urodynamic evaluation in absence of known urinary tract infection risk factors are not recommended in patients with MS (Level C)
Screening and treatment of asymptomatic bacteriuria (colonization) before urodynamic evaluation in presence of known urinary tract infection risk factors (recurrent urinary tract infection, vesico-ureteral reflux, high detrusor pressure >40 cmH2O) are recommended in patients with MS (Level C)
3 e. Asymptomatic bacteriuria (colonization) in patients with urinary catheter?
Screening and systematic treatment of asymptomatic bacteriuria (colonization) of patients with MS with intermittent or indwelling catheters are not recommended with the exception of situations recommended in the general population (pregnancy, invasive urological surgery) (Level C, expert recommendation)

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