



Brief Report

It is still PCP that can stand for *Pneumocystis pneumonia*: Appeal for generalized use of only one acronym

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Abstract

Twenty-years ago, considering the host specificity of *Pneumocystis* species, the human-derived *Pneumocystis*, *Pneumocystis carinii* formae specialis *hominis*, was renamed *Pneumocystis jirovecii*. *Pneumocystis carinii* formae specialis *carinii* was finally renamed *Pneumocystis carinii* and kept for the species derived from *Rattus norvegicus*. *P. jirovecii* is now widely used by most authors. The PCP acronym that initially referred to "*Pneumocystis carinii pneumonia*" was contemporaneously redefined to stand for *Pneumocystis pneumonia* in order to avoid changing the acronym of the name of the disease that clinicians have used for several decades. Using analysis of multidata bases on PubMed, we have noted a recent acceleration in the use of PJP for *Pneumocystis jirovecii pneumonia*, which may be grammatically correct but not in accordance with retaining PCP, which was proposed in the early 2000s. Through this reminder, in order to standardize the literature on *P. jirovecii*, we plead for the use of only one acronym, PCP.

Lay Summary

Through this reminder on *Pneumocystis* nomenclature, we plead for the use of only one acronym, PCP, the retention of which was proposed in the early 2000s, and which currently stands for *Pneumocystis pneumonia*.

Key words: *Pneumocystis jirovecii*, *Pneumocystis pneumonia*, PCP.

Pneumocystis jirovecii is an ascomycete, specific to humans, that is characterized by high tropism for the lungs and airborne host-to-host transmission.¹ To the best of our knowledge, the

combination of host specificity and this mode of transmission represents a unique phenomenon in medical mycology. *Pneumocystis pneumonia* (PCP) was a major cause of morbidity

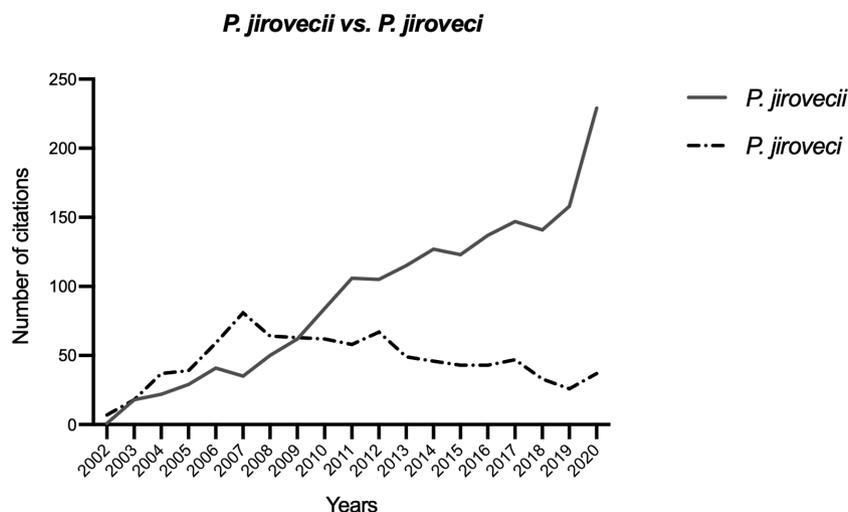


Figure 1. Citations comprising *P. jirovecii* vs. citations comprising *P. jiroveci*, indexed on ncbi.nlm.nih.gov (PubMed) over the period from 2002 to 2020.

and mortality among HIV-infected populations in the 1980s.^{2,3} Nonetheless, it remains the main cause of AIDS-defining illness in developed countries³ while an increased frequency of PCP in non-AIDS patients with defects of cellular or global immunity is reported.⁴ A total of about 400 000 PCP cases may occur each year worldwide with a high mortality rate of up to 18%.⁵ The fungus is also involved as a comorbidity factor in acute or chronic pulmonary diseases.⁶ For these reasons, *Pneumocystis* infections are still a public health issue as attested by about 200 annual publications available on ncbi.nlm.nih.gov (PubMed).

During the seventh International Workshop on Opportunistic Protists (IWOP) meeting in 2001, considering the host specificity of *Pneumocystis* species in mammals, participants decided to rename *Pneumocystis carinii* formae specialis *hominis*, the human-derived *Pneumocystis*, *Pneumocystis jiroveci* in honor of Professor Otto Jirovec.^{7,8} On the other hand, *Pneumocystis carinii* formae specialis *carinii*, was renamed *Pneumocystis carinii*, which was kept only to designate the species derived from *Rattus norvegicus*. Indeed, PCP in humans is an anthroponosis and not a zoonosis as previously acknowledged. Although this change was the subject of debate, it is now widely used by most clinicians and biologists.^{9–16} Incidentally, the name *Pneumocystis jiroveci* which was originally published in the incorrect form bearing a single ‘i’ at the end, was later corrected to *Pneumocystis jirovecii* with the double ‘i’ ending¹⁷ considering recommendations of the Code of Botanical Nomenclature (ICBN). Using analysis of multidata bases on ncbi.nlm.nih.gov (PubMed), we identified 1479 citations comprising *P. jirovecii* vs. 879 citations comprising *P. jiroveci* during the period from 2002 to 2020. There has been a gradual decline in the use of “*jiroveci*” over the past 12 years, although it is still used as evidenced by the 37 citations in 2020 (Fig. 1).

During the seventh International Workshop on Opportunistic Protists (IWOP) meeting in 2001, participants decided to keep the PCP acronym to refer to the disease, despite the new term

Pneumocystis jirovecii referring to the fungus. Indeed, the PCP acronym initially referred to “*Pneumocystis carinii* pneumonia” but was redefined so that now PCP stands for *Pneumocystis pneumonia* (see reference 7, page 185, third paragraph and reference 8 page 893, third paragraph). Although the term *Pneumocystis jirovecii* pneumonia, in reference to a pneumonia caused by *Pneumocystis jirovecii*, is grammatically correct, the acronym PJP is not in accordance with what was proposed.^{7,8} This change of the meaning of PCP was proposed in order to avoid changing the acronym of the name of the disease that clinicians and researchers have used for several decades to designate the disease in humans and animals regardless of the species of *Pneumocystis* involved. Indeed, it would not be convenient to use at present *Pneumocystis carinii* pneumonia (PCP) or *Pneumocystis wakefieldiae* pneumonia (PWP) in *Rattus norvegicus*, *Pneumocystis oryctolagi* pneumonia (POP) in *Oryctolagus cuniculus*, *Pneumocystis muris* pneumonia (PMP) in *Mus musculus*, *Pneumocystis macacae* pneumonia (PMP) in *Macaca* sp., *Pneumocystis canis* pneumonia (PCP) in *Canis lupus familiaris* and so on. Moreover, in this context PCP and PMP would be used twice and could be confusing. Using analysis of multidata bases on ncbi.nlm.nih.gov (PubMed), we identified 1073 citations comprising PCP vs. 274 citations comprising PJP during the period from 2004 to 2020. The first article using PJP was effectively published in 2004, although the revision of the nomenclature was proposed in 2001. We have noted an acceleration in the use of PJP compared to PCP over the past 2 years, with 48–64 citations of PJP vs. 83–98 citations of PCP, between 2018 and 2020 (Fig. 2). Most of those latter indicated “*Pneumocystis jirovecii* pneumonia (PCP)” instead of “*Pneumocystis pneumonia* (PCP)”. This ambiguity remains to be resolved.

In conclusion, in order to standardize the literature on *P. jirovecii*, not to change the long-term behaviors of clinicians, and to designate the disease both in animals and humans by the same terms, we plead for the use of only one acronym, and

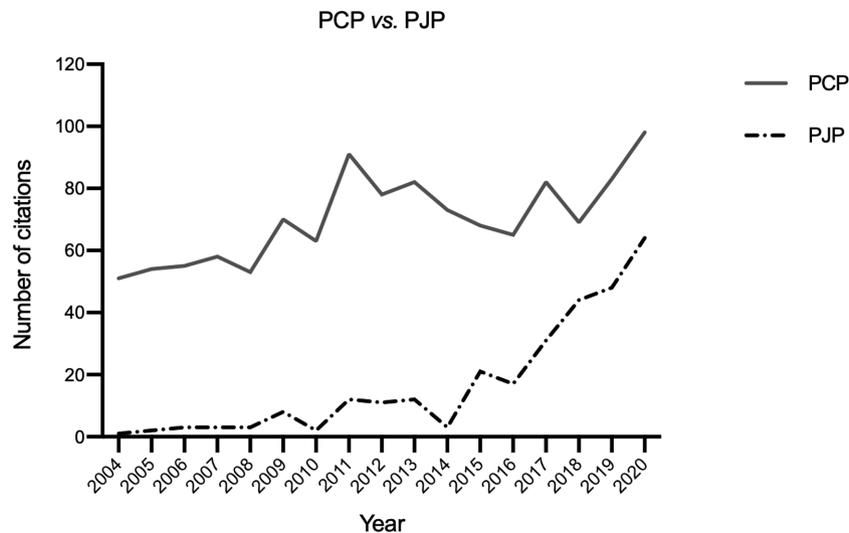


Figure 2. Citations comprising PCP vs. citations comprising PJP, indexed on ncbi.nlm.nih.gov (PubMed) over the period from 2004 to 2020.

specifically PCP that stands for *Pneumocystis pneumonia* as proposed in the early 2000s. Be that as it may, the use of PJP will likely continue but it may be limited by the present reminder.

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Declaration of interest

None.

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