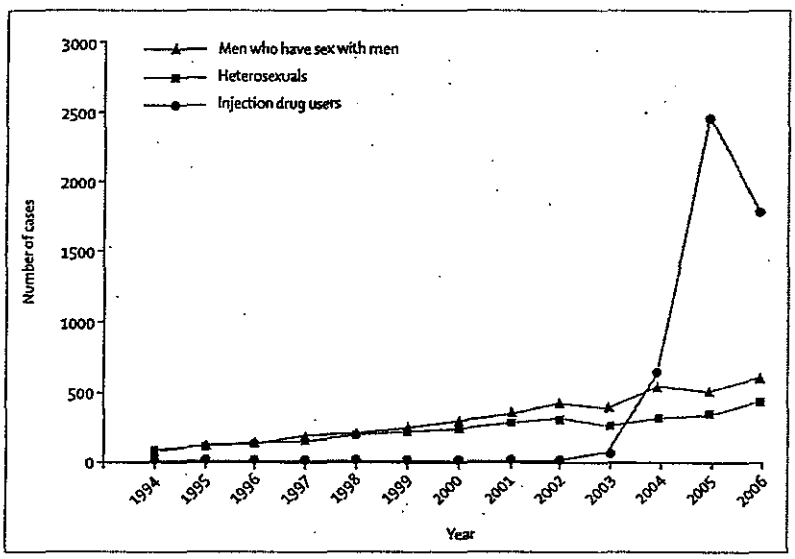

Figure 2: Annual numbers of HIV-1-infected persons in various high-risk groups reported to Taiwan Centers for Disease Control[1]

via southeast China, Guangxi province, and Hong Kong.[7-9] There have been enormous increases in the amount of heroin smuggled into Taiwan and in the number of intravenous drug users since 2002, when five intravenous drug users from southern Taiwan were diagnosed as the country's first HIV-1 seropositive cases infected with CRF07_BC.[5] Even though the Hong Kong authorities identified three cases of CRF07_BC infection in 2001, a serious outbreak in that city's population of intravenous drug users is believed to have been blocked by a methadone maintenance programme.[9]

Clearly, close monitoring of emerging HIV-1 subtypes related to intravenous drug use and implementing harm-reduction programmes are vital to preventing similar outbreaks in other populations of intravenous drug users in neighbouring countries. In 2005, Alex Wodak, Jerry Stimson, and other harm-reduction experts were invited to Taiwan to share their experiences with government officials, medical field-workers, and public-health professionals. After careful study of harm-reduction programmes in place in Hong Kong and Australia, a pilot programme was started in four of Taiwan's 23 administrative areas in September, 2005. This programme has since been expanded nationally, and consists of 427 service sites for syringe exchange plus centres for methadone maintenance therapy. Free methadone is provided to HIV-1-infected intravenous drug users while HIV-1 seronegative intravenous drug users have to pay about US$1600 a year. The Taiwan Centers for Disease Control plans to provide methadone maintenance to intravenous drug users in prisons, and the country's Bureau of Controlled Drugs will start producing methadone to assist in the government's commitment to providing methadone maintenance to 30 000 intravenous drug users by 2009.

All parts of Asia are reporting rising numbers of HIV-positive and AIDS patients in male homosexuals and bisexuals. In Taiwan, HIV-1 infection rates in men who have sex with men in gay saunas in different cities currently range from 5·2% to 15·8%.[10,11] The same population has high rates of syphilis, 8·1–13·8%, depending on the city.[10,11] Taiwanese male homosexual and bisexual HIV-1/AIDS patients have also been diagnosed with significantly higher rates of syphilis than have heterosexual patients.[12] Furthermore, the percentage of homosexual or bisexual HIV-1/AIDS patients under the age of 20 years is significantly higher than that of heterosexual patients, 3·0% versus 1·7%.[12] In addition to the stigmatisation of homosexuality in Taiwanese society, the lack of accurate information on homosexuality in sex education and on risk factors in AIDS education increases the risk of contracting HIV and other sexually transmitted infections within the country's population of men who have sex with men. Whilst a community-based prevention programme for such men has been developed by a group of academic and grass-roots non-governmental organisations, a current challenge is the implementation of this programme into a national programme, and making it a priority.

Taiwan's clinical spectrum of AIDS patients is similar to those reported in other developed countries, but significant differences have been noted in incidences of opportunistic infections. For example, the incidence of tuberculosis in patients with advanced illness is high in Taiwan (24·6%) and the rate of endemic fungal (*Penicillium marneffei*) infections is increasing.[13,14] On the positive side, the effort by the Taiwanese Government since April, 1997, to distribute highly-active antiretroviral therapy for free[15] has resulted in dramatic decreases in morbidity and mortality from HIV-1 infection.[16]

Because of their high background prevalence, HBV and HCV coinfections with HIV are particularly important in Asian countries in terms of HIV transmission via injecting drug use.[17,18] In a survey of

459 intravenous drug users infected with HIV-1, one of us (Y-MAC) found that 456 (99·6%) also had anti-HCV antibodies and 77 (16·8%) were seropositive for HBsAg. The long-term impact of hepatitis coinfections on HIV and on morbidity and mortality from liver disease requires monitoring.

By the end of 2006, 19 confirmed cases of vertical HIV-1 transmission have been reported to the Taiwan Centers for Disease Control.[1] In January, 2005, the agency started a national programme focused on prevention of mother-to-child transmission, and five cases of vertical transmission were reported in 2005. By June, 2006, the screening rate had reached 97·4%, and 47 of 338 452 pregnant women (13·9 per 100 000) tested in Taiwan have been identified as having HIV-1 infections and have received antiretroviral therapy to prevent mother-to-child transmission. To increase the participation rate, there is discussion of changing the voluntary counselling and testing strategy from opt in to opt out.

Several positive responses to the HIV/AIDS epidemic in Taiwan should be mentioned. In 1990 an AIDS Prevention and Control Law was passed to protect the rights of people with HIV/AIDS for treatment, education, and employment. Since 1992, 16 non-governmental organisations registered or established in Taiwan have provided shelter, care, counselling, anonymous testing, and AIDS education. One in particular, the People Living with HIV/AIDS Rights' Advocacy Association, has been addressing human rights issues related to HIV/AIDS since 1997. However, most such organisations have their headquarters and facilities in northern Taiwan, and two-thirds of the country's intravenous drug users live in central and southern parts. In addition, many social workers employed by non-governmental organisations are still unfamiliar with issues related to drug abuse and inexperienced in interacting with intravenous drug users. There is a clear and immediate need for counselling workshops for medical staff and social workers.

As the HIV-1 infection threat increases, there are many signs of persistent denial and resurgent discrimination in Taiwan. Several important issues need to be addressed: sentinel surveillance of female sex workers, social welfare institutions and housing for homeless people with HIV/AIDS, financial support for non-governmental organisations, training and re-education programmes aimed at changing the attitudes of medical staff toward people with HIV/AIDS, and more funding for AIDS research, especially vaccine development.

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We declare that we have no conflict of interest.

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別紙様式第2-1
番号18

医薬品
医薬部外品　　研究報告　調査報告書
化粧品

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一般的名称	①ポリエチレングリコール処理抗破傷風人免疫グロブリン ②乾燥抗破傷風人免疫グロブリン		研究報告の公表状況	第81回日本感染症学会総会・学術講演会 ポスターP26-1	公表国 日本	
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研究報告の概要

【緒言】これまで国内でのHIV-2感染症例はいずれの報告も外国籍患者であった。今回、日本人初のHIV-2感染症例を経験したので報告する。

【症例】77歳男性、36年前セネガルで輸血歴がある。2006年6月下旬、気管支喘息発作にて当院入院となった。インフォームド・コンセントの上での入院時HIVスクリーニング検査(ELISA)で、HIV抗体高値となった。その後Western Blot法により確認検査を行い、HIV-1抗体陰性HIV-2抗体陽性となった。また、ペプチド法による確認検査でも同様の結果であった。入院時のCD4数は234/μLとやや低値であったがAIDSを疑わせる症状は認められなかった。加療にて気管支喘息は軽快し入院8日目で退院となった。8月現在CD4数は827/μLとなりAIDSを発症せずに当院外来で経過観察中である。

【遺伝子解析】国立感染症研究所に依頼し、HIV-1及びHIV-2各々に特異的なgag及びnef-LTR領域を標的とするプライマーを用いたPCRによる遺伝子検査を行った、その結果、HIV-2特異的gagプライマーでのみプロウイルスDNAの増幅が確認された。更にPCR産物から得られた塩基配列の系統樹解析では、本症例はHIV-2サブタイプAに属しセネガル株(60415K株)に最も近縁であった。

【考察】輸血歴と遺伝子解析の結果から、本症例は36年前セネガルでの輸血でHIV-2に感染したと考えられる。HIV-2は一般的に発症が遅く症状が軽いとされているが、本症例が36年間AIDSを発症していない機序は極めて興味深く、現在国立感染症研究所と共同で調査中である。なお、国内におけるHIV-2感染は稀とはいえ、HIVスクリーニング検査陽性でHIV-1感染に特異的な検査が陰性である場合、HIV-2感染の可能性を考慮する必要性がある。

使用上の注意記載状況・その他参考事項等

代表としてテタノブリンーIHの記載を示す。

2. 重要な基本的注意

(1) 本剤の原材料となる血液については、HBs抗原、抗HCV抗体、抗HIV-1抗体、抗HIV-2抗体陰性で、かつALT(GPT)値でスクリーニングを実施している。更に、プールした試験血漿については、HIV-1、HBV及びHCVについて核酸増幅検査(NAT)を実施し、適合した血漿を本剤の製造に使用しているが、当該NATの検出限界以下のウイルスが混入している可能性が常に存在する。本剤は、以上の検査に適合した高力価の破傷風抗毒素を含有する血漿を原料として、Cohnの低温エタノール分画で得た画分からポリエチレングリコール4000処理、DEAEセファデックス処理等により抗破傷風人免疫グロブリンを濃縮・精製した製剤であり、ウイルス不活化・除去を目的として、製造工程において60℃、10時間の液状加熱処理及び濾過膜処理(ナノフィルトレーション)を施しているが、投与に際しては、次の点に十分注意すること。

報告企業の意見	今後の対応
日本人初のHIV-2感染者が確認されたとの報告である。 万一、原料血漿にHIV-2が混入したとしても、HIV-1をモデルウイルスとしたウイルスバリデーション試験成績から、本剤の製造工程において十分に不活化・除去されると考えている。	本報告は本剤の安全性に影響を与えないと考えるので、特段の措置はとらない。

(5)

ポスター26　HIV感染症 1

G0701500

P26-1　36年間AIDSを発症していない日本人初のHIV-2感染症の1例

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【緒言】これまで国内でのHIV-2感染症例はいずれの報告も外国籍患者であった．今回，日本人初のHIV-2感染症例を経験したので報告する．【症例】77歳男性．36年前セネガルで輸血歴がある．2006年6月下旬，気管支喘息発作にて当院入院となった．インフォームド・コンセントの上での入院時HIVスクリーニング検査（ELISA）で，HIV抗体高値となった．その後Western Blot法により確認検査を行い，HIV-1抗体陰性HIV-2抗体陽性となった．また，ペプチド法による確認検査でも同様の結果であった．入院時のCD4数は234/μLとやや低値であったがAIDSを疑わせる症状は認められなかった．加療にて気管支喘息は軽快し入院8日目で退院となった．8月現在CD4数は827/μLとなりAIDSを発症せずに当院外来で経過観察中である．【遺伝子解析】国立感染症研究所に依頼し，HIV-1及びHIV-2各々に特異的な*gag*及び*nef*-LTR領域を標的とするプライマーを用いたPCRによる遺伝子検査を行った．その結果，HIV-2特異的*gag*プライマーでのみプロウイルスDNAの増幅が確認された．更にPCR産物から得られた塩基配列の系統樹解析では，本症例はHIV-2サブタイプAに属しセネガル株（60415K株）に最も近縁であった．【考察】輸血歴と遺伝子解析の結果から，本症例は36年前セネガルでの輸血でHIV-2に感染したと考えられる．HIV-2は一般的に発症が遅く症状が軽いとされているが，本症例が36年間AIDSを発症していない機序は極めて興味深く，現在国立感染症研究所と共同で調査中である．尚，国内におけるHIV-2感染は稀とはいえHIVスクリーニング検査陽性でHIV-1感染に特異的な検査が陰性である場合，HIV-2感染の可能性を考慮する必要性がある．（会員外共同研究者：草川茂[2]，上西理恵[2]）

G0701501

P26-2　初回治療における硫酸アタザナビルの使用経験

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【目的】硫酸アタザナビル（ATV）はHIVプロテアーゼ阻害作用を有し，HIV感染症に用いられる薬剤である．本剤は1日1回投与の適応を持ち，服薬アドヒアランスの向上が期待できることから，治療の第一選択薬の一つとして使用されている薬剤である．今回我々は，ATV服用患者を対象に，治療効果・安全性について検討を行ったので報告する．【方法】平成16年6月から平成18年5月までに，当院で本剤の投薬を開始した未治療患者60例を対象に調査を行った．【結果】対象患者60例中，核酸系逆転写酵素阻害剤（NRTI）2剤にATV 400mgを併用した症例は7例，NRTI 2剤にATV 300mgとリトナビル（RTV）100 mgを併用した症例は53例であった．NRTIの主な併用薬はTDF＋3TC 24例，TDF＋FTC 23例であった．抗ウイルス効果について24週以上投与された症例で検討した．投薬開始後4週を経過した時点のHIV-RNA量は，平均1.9log10copies/ml減少し，24週，48週後にHIV-RNA量が検出限界未満（50copies/ml）であった症例は，それぞれ45/47，36/36であった．主な副作用は「総ビリルビン上昇」「黄疸」「黄疸眼」であったが，その多くは軽度であり，副作用が原因で他剤への変更が行われた症例は1例であった．総コレステロール（TC），中性脂肪（TG）の変化を投与前と投与24週，48週後で検討した．TCの変化率は，＋1.1%，＋1.1%，TGは，＋1.3%，＋1.1%であった．【考察】一般的にPIは脂質代謝への影響が大きく，長期服用が必要とされる抗HIV療法の問題の一つとされているが，本剤はTC，TGへの影響が少ない薬剤であると考えられた．ATVは抗ウイルス効果に優れ特に問題となる副作用も認められないことから，認容性の高いPIである思われた．

医薬品 研究報告 調査報告書

識別番号・報告回数			報告日	第一報入手日	新医薬品等の区分	機構処理欄
				2007. 4. 19	該当なし	

一般的名称	人赤血球濃厚液	研究報告の公表状況	Hamaguchi T, Noguchi-Shinohara M, Nakamura Y, Sato T, Kitamoto T, Mizusawa H, Yamada M. Emerg Infect Dis. 2007 Jan;13(1):162-4.	公表国
販売名(企業名)	赤血球M・A・P「日赤」(日本赤十字社) 照射赤血球M・A・P「日赤」(日本赤十字社) 赤血球濃厚液-LR「日赤」(日本赤十字社) 照射赤血球濃厚液-LR「日赤」(日本赤十字社)			日本

研究報告の概要

○日本のプリオン疾患における眼科手術

孤発性クロイツフェルト・ヤコブ病患者のうち10%～20%は、疾患の早期の段階で視覚障害を発症する。一部の患者は、プリオン疾患あるいは加齢による視覚障害のために眼科を受診する。手術後長期間経ってからプリオン疾患を発症した場合、眼科手術による感染性プリオンタンパクの二次感染予防は困難である。日本のプリオン疾患患者597名のうち11名(1.8%)が、発症の前後1ヶ月以内に眼科手術を受けた。眼科医はいずれもプリオンタンパクの感染性を除去するには不十分な滅菌しか行われていない手術器具を再使用していた。眼科医は、プリオン疾患が眼症状を引き起こす可能性があることを認識し、可能な限り使い捨て器具を使用すべきである。

報告企業の意見	今後の対応
日本のプリオン疾患患者597名のうち11名が、発症の前後1ヶ月以内に眼科手術を受け、眼科医はプリオンタンパク質の感染性を除去するには不十分な滅菌しか行われていない手術器具を再使用していたとの報告である。	今後も引き続き、プリオン病に関する新たな知見及び情報の収集に努める。

使用上の注意記載状況・その他参考事項等

赤血球M・A・P「日赤」
照射赤血球M・A・P「日赤」
赤血球濃厚液-LR「日赤」
照射赤血球濃厚液-LR「日赤」

血液を介するウイルス、
細菌、原虫等の感染
vCJD等の伝播のリスク

MedDRA / J Ver.10.0 J

Ophthalmic Surgery in Prion Diseases

Tsuyoshi Hamaguchi,*[1] Moeko Noguchi-Shinohara,* Yosikazu Nakamura,†[2] Takeshi Sato,‡[2] Tetsuyuki Kitamoto,§[2] Hidehiro Mizusawa,¶[2] and Masahito Yamada*[2]

Eleven (1.8%) of 597 patients underwent ophthalmic surgery within 1 month before the onset of prion disease or after the onset. All ophthalmologists reused surgical instruments that had been incompletely sterilized to eliminate infectious prion protein. Ophthalmologists should be aware of prion diseases as a possible cause of visual symptoms and use disposable instruments whenever possible.

Visual impairment occurs in 10% to 20% of patients with sporadic Creutzfeldt-Jakob disease (sCJD) during an early stage of the disease (Heidenhain variant) (*1*,*2*). Some patients with prion diseases may visit ophthalmologists with visual impairment due to prion diseases or with coexisting age-related eye diseases (*3*,*4*).

Infectious prion protein (PrP^{Sc}) was identified in the retina and optic nerve in patients with variant CJD (vCJD) and sCJD (*5*,*6*), and CJD has been transmitted by corneal transplantation (*7*,*8*). In the World Health Organization (WHO) guidelines, eyes were classified as highly infectious tissues (*9*).

Secondary transmission of PrP^{Sc} through ophthalmic surgery could possibly be prevented around the onset of prion diseases, although surgery that is performed long before the onset of prion diseases would not have that potential. It is important to understand the current status of ophthalmic surgery for patients with prion diseases and to clarify the clinical features of the patients with prion diseases who undergo ophthalmic surgery. Here, we describe the relevant data from CJD surveillance in Japan.

The Study

We analyzed the patients with prion diseases who had been registered by the CJD Surveillance Committee in Japan from April 1999 through March 2005. We prospectively investigated each patient with a surveillance protocol that assembled information about life history, previous medical history, clinical history, laboratory data, and results of molecular genetic and pathologic analyses. Written consent, approved by the Institutional Ethics Committee, was obtained from all the patients' families; members of the Surveillance Committee examined the patients and collected the data.

We classified the patients into 4 categories: sCJD, infectious prion diseases, inherited prion diseases, and unclassified prion diseases. sCJD was diagnosed according to the classical criteria established by Masters et al. (*10*). Infectious prion diseases included CJD associated with cadaveric dura mater graft (dCJD) or other iatrogenic opportunities for prion infection, in which the criteria for sCJD were applied for the diagnosis, and vCJD, in which the diagnosis was based on WHO criteria (2001) (*11*). Regarding the accuracy of the diagnosis of inherited prion diseases, cases verified by pathology report were defined as definite, and cases with mutations in the prion protein gene and neuropsychiatric manifestations compatible with prion diseases were defined as probable.

Among patients with a history of ophthalmic surgery, we directed special attention to the patients who had a history of eye surgery within 1 month before the obvious onset of prion disease or after the onset. Because the onset of prion diseases often overlaps with various kinds of prodromal symptoms, determining the precise time point of onset is difficult; therefore, we included the period of 1 month before the obvious onset. To gather information about the ophthalmic surgery, we mailed questionnaires to the ophthalmologists who operated on these patients, requesting the following information: diagnosis of ophthalmologic diseases, surgical procedures performed, changes in the symptoms after the surgery, whether the instruments were reused, and methods of cleaning reused instruments.

To ascertain the clinical features of prion diseases, we analyzed the patient's age at onset and duration of disease course, which was calculated as the interval between the onset and the appearance of the akinetic mutism state or death in the patients who died without akinetic mutism. Among early clinical manifestations of prion diseases, dementia and visual disturbance are major determinants that would influence the indication for ophthalmic surgery, so we grouped the patients according to whether they had dementia or visual impairment within 2 months after onset of symptoms.

The sex distribution of the patients who had ophthalmic surgery around the time of onset of clinical symp-

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toms and those who did not was compared by Fisher exact tests, and differences in age at onset and disease duration were compared by Mann-Whitney U tests. We used χ^2 tests to compare the distribution of the patients with or without dementia or visual impairment within 2 months of onset. Statistical significance was defined as $p<0.05$.

We found 597 patients with definite or probable diagnosis of prion diseases: 468 (78.4%) with sCJD; 78 (13.1%) with inherited prion diseases; 48 (8.0%) with infectious prion diseases, including 47 cases of dCJD; and 1 patient with vCJD and 3 patients with unclassified CJD.

Thirty-seven patients (6.2%) had a history of ophthalmic surgery at some time in their lives. Among them, 11 patients (1.8%) underwent ophthalmic surgery within 1 month before the obvious onset of prion disease or after the onset. Except for 1 patient with Gerstmann-Sträussler-Scheinker disease, all of these patients had sCJD. There have been no reports of the development of prion diseases in patients who underwent ophthalmic surgery after the ophthalmic surgery of patients with prion diseases.

Ten patients with sCJD underwent ophthalmic surgery within 14 months of symptom onset, and 8 of them had ophthalmic surgery within 4 months of symptom onset (Table 1). At clinical onset, 4 patients exhibited visual symptoms, 5 had dementia, and 1 patient had a gait disturbance. All patients underwent surgery for cataracts, except for 1 patient who underwent surgery for a detached retina. According to the reports on the surgical outcome by the ophthalmologists of 7 patients, visual disturbance was unchanged in 2 patients, deteriorated in 1, and improved to some extent in 4 after surgery. All ophthalmologists reused some surgical instruments and cleaned instruments by either autoclaving or the ethylene oxide gas method, which have been reported to incompletely sterilize PrP^{Sc} (*9,12*).

Clinical features were compared between sCJD patients who did and did not have ophthalmic surgery (Table 2). The patients who had ophthalmic surgery had a significantly longer disease duration than those without ($p=0.0004$). Regarding early clinical symptoms within 2 months after onset, the subgroup with visual symptoms without dementia was significantly overrepresented among the patients who had ophthalmic surgery compared with those who did not have surgery ($p= 0.0004$).

Conclusions

Our study showed that, in 1.8% of the patients with prion diseases, eye tissues were operated on within 1 month before the obvious onset of prion disease or after the onset. In addition, the sCJD patients who underwent surgery had a significantly longer duration of the disease course as well as significant overrepresentation of visual symptoms without dementia in the early phase, compared with patients who did not have ophthalmic surgery.

The prevalence of ophthalmic surgery around the time of clinical onset of prion diseases in our study is similar to that (2.0%) in a report from the United Kingdom (*13*). In the UK study (*13*), patients with Heidenhain variant cases constituted 40% of sCJD patients who had ophthalmic surgery. Early visual impairment (due to prion diseases) would prompt ophthalmologists to perform surgery.

Currently, cataract surgery is recommended to improve physical or cognitive function in elderly patients (*14,15*). It should be noted that, after performing eye surgery on patients with prion disease, all ophthalmologists reused surgical instruments that were sterilized with procedures that are incomplete for the sterilization of PrP^{Sc}, although the WHO infection control guidelines for prion diseases (*9*) strongly recommend single-use surgical

Table 1. Characteristics of sCJD patients and ophthalmic surgery*

Patient no.	Sex/age, y†	Disease duration, mo‡	Symptom at sCJD onset	Ophthalmic disease	Interval, mo§	Visual symptoms after surgery	Reused instruments	Cleaning method
1	M/81	8	Visual	Cataract	4	NA	NA	NA
2	M/61	15	Dementia	Cataract	0	Improved	Yes	Autoclave (135°C for 9 min)
3	F/64	20	Visual	Cataract	14	Not changed	Yes	EOG
4	F/59	3	Dementia	Detached retina	–1	Improved	Yes	EOG
5	F/57	10	Dementia	Cataract	10	NA	NA	NA
6	F/79	5	Dementia	Cataract	–1	Improved	Yes	EOG
7	M/74	16	Visual	Cataract	3	Improved	Yes	Autoclave (132°C for 10 min), EOG
8	F/63	5	Visual	Cataract	1	Deteriorated	Yes	Autoclave (132°C for 10 min)
9	M/79	6	Gait disturbance	Cataract	2	Not changed	Yes	Autoclave (121°C for 60 min)
10	F/66	3	Dementia	Cataract	1	NA	NA	NA

*sCJD, sporadic Creutzfeldt-Jakob disease; visual, visual impairment; NA, not available; EOG, ethylene oxide gas.
†At sCJD onset.
‡Disease duration, the duration from onset to akinetic mutism state or death if the patients never displayed akinetic mutism.
§Between surgery and sCJD symptoms.

Table 2. Clinical symptoms of sCJD within 2 mo after disease onset*

Characteristic	Ophthalmic surgery		Total	p value
	No, n = 458	Yes, n = 10		
Female/male	263/195	6/4	269/199	0.57
Age at onset, y; mean ± SD	66.8 ± 9.9	68.3 ± 9.1	66.8 ± 9.9	0.74
Disease duration,† mean ± SD	4.2 ± 4.8	9.1 ± 6.0	4.3 ± 4.9	0.0004
Clinical symptoms (%)				
Dementia (+)/visual impairment (+)	153 (34.2)	4 (40.0)	157 (34.3)	
Dementia (+)/visual impairment (–)	239 (53.3)	3 (30.0)	242 (52.8)	0.0004
Dementia (–)/visual impairment (+)	16 (3.6)	3 (30.0)	19 (4.1)	
Dementia (–)/visual impairment (–)	40 (8.9)	0	40 (8.7)	

*sCJD, sporadic Creutzfeldt-Jakob disease; SD, standard deviation; +, with; –, without.
†Disease duration, the duration from onset to akinetic mutism or death if patients never displayed akinetic mutism.

instruments for procedures involving highly infective tissues. The fact that no secondary iatrogenic cases that could be attributed to surgical procedures were found during our investigation does not diminish the need for ophthalmologists to be aware of CJD as a cause of visual symptoms (including symptoms mimicking those of cataracts) and highlight the importance of using disposable instruments whenever possible to avoid cross-contamination.

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