Medicine & Clinical Science

Original Article

Tokyo's sentinel surveillance weekly reporting highest record of Kawasaki disease cases in spring 2025 should be regarded as the key predictive indicator of a 2018-like situation, given Japan's lack of rapid reporting of cancer incidence and the 2018 coincidence of extreme pollen levels with peak Kawasaki disease, cancer, and designated intractable disease incidence

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Keywords

Kawasaki disease (KD), designated (specified) intractable diseases, cancers and malignancies, Pollen-Induced Diseases (PID), pollen dispersal, scattering pollen, airborne pollen counts, pollen exposure(PE), Tokyo Metropolitan sentinel surveillance weekly report

Abbreviations

Numbers of increase and decrease of incidence compared with previous year; increase/decrease: Nos; i/d or id; Kawasaki disease: KD; Designated (specified) intractable diseases: SID; ulcerative colitis: UC; Parkinson disease: PD

Abstract

***Background*:** The year 2018, seven years after 2011—which saw the second-highest pollen count in Tokyo's recorded history—was once again the year with the highest pollen count. The number of Kawasaki disease (KD) patients nationwide showed only a slight difference between 2018 (17,364) and 2019 (17,347). 2018 also marked the year with the highest number of KD cases in the nation's history, ranking first or second among all recorded years. The number of new cancer cases across all cancer types was also very close when comparing the two years of 2018 (over 980,000 people) and 2019 (just under 1 million people). 2018 saw the highest number of new cancer cases ever recorded across all cancer types, coinciding with the increase in KD incidence. It was also reported that the total number of registered designated intractable diseases also showed a continuous increase in 2018, with over 910,000 people in fiscal year 2018, nearly 950,000 in fiscal year 2019, and over 1.03 million in fiscal year 2020.

***Methods*:** According to the 2025 Tokyo Metropolitan Government sentinel surveillance weekly report on KD, the cumulative total of 117 KD cases reported through Week 22 significantly exceeded the 90 cases reported through Week 22 in 2018. The cumulative total of 243 KD cases reported through Week 47 of 2025 significantly exceeded the 191 cases reported through Week 47 of 2018. As mentioned earlier, 2018 saw the highest number of new cancer cases across all cancer types and the highest number of registrations for all designated intractable diseases, both linked to the incidence of KD.

***Results*:** Therefore, it is predicted that the number of new cancer cases across all cancer types and the number of registrations for all designated intractable diseases in 2025 will also reach record highs, linked to the incidence of KD. Furthermore, it is predicted that the number of new cases of cancer and designated intractable diseases will increase this year (2025), next year (2026), and the year after (2027).

***Conclusions*:** Will the Tokyo Metropolitan Government sentinel surveillance weekly report on KD in infants and young children serve as the sole means, indicator, or benchmark capable of predicting the magnitude of designated intractable diseases and cancer incidence this year, next year, and the year after? Otherwise, we request that at least the preliminary figures for cancer incidence in 2022, 2023, and 2024 be released as soon as possible.

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Introduction

In 2002, the author observed that the absence or scarcity of moles and smooth, silky skin are distinct characteristics found in patients with hay fever and other allergic diseases (1) and in infants with Kawasaki disease (2). Furthermore, since individuals with Parkinson's disease, epilepsy, acquired deafness, and hearing loss also exhibit this phenomenon, research analyzing the activity status (degree of activity) of the melanin synthesis metabolic system in melanocytes and the antagonistic phenomenon between melanocytes and mast cells is essential, as reported at the academic conference (3). However, research has not progressed since then.

Kawasaki disease (KD) was first reported in 1962. Nationwide surveys on KD incidence (4) began in 1970. Japanese cedar pollen allergy was first reported in 1963(5). Following the commencement of pollen dispersal surveys at National Sagamihara Hospital in 1965, the authors were able to conduct comparative analyses of the dynamics of KD incidence and fluctuations in airborne pollen counts.

The author discovered in 2003 that pollen may be a trigger for KD onset (2) and reported four KD-related papers by 2016 (2, 6-8). Keeping in mind the commonality of life phenomena (final common pathway), we created a graph comparing the annual number of new cases registered for 40 designated intractable diseases from 1974 to 2014 and for 24 types of cancer from 1975 to 2015 with the pollen counts for cedar and cypress, over a 40-year span in Sagamihara City, Kanagawa Prefecture, in Bunkyo-area, Tokyo Metropolitan, and the average pollen count at 12 locations in Tokyo. The authors have conducted 20-year lag correlation analyses and reported them in eight papers (9-16). These studies have led to the discovery of a universal biological phenomenon: pollen exposure not only acts as a trigger for KD onset, but also functions as a trigger for the onset of 40 designated intractable diseases, including Takayasu's arteritis (a vascular inflammatory syndrome), and 24 types of cancer and malignant tumors.

Textbooks readily indicate that environmental factors are involved in the onset of various diseases, yet few epidemiological studies specifically demonstrate which environmental factors are linked to which diseases.

We have consistently argued throughout our research and published papers on numerous pollen-induced diseases (PIDs) that plant pollen is the foremost environmental factor.

This paper notes that even after the 1999 revision of the Infectious Diseases Control Law, only about four prefectures besides Tokyo continued their sentinel surveillance reporting for Kawasaki disease (KD) without discontinuing it. This report details how the weekly surveillance reports for KD not only provide trends in KD incidence but also offer valuable evidence and insights that aid in predicting and forecasting the annual incidence of designated intractable diseases, cancer, and malignant tumors—information previously unimaginable to medical experts. Individuals at risk for designated intractable diseases, cancer, and malignant tumors, like those at risk for KD and allergic diseases, commonly exhibit corresponding biological responses when this year's pollen exposure compounds upon their cumulative lifetime pollen exposure history. When the above reactions occur in a pronounced manner, it constitutes the onset of the disease, and the patient will be diagnosed as an affected individual by a physician.

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Materials & Methods

The authors investigated the latest Kawasaki disease (KD) incidence trends based on weekly fixed-point sentinel reports from the Tokyo Metropolitan Infectious Disease Surveillance Center. The number of cases is per fixed 264 points. The data of KD incidence of Japan were obtained from data of Nationwide Epidemiological Surveys of Kawasaki Disease in Japan as described in our previous report of Reference 9. Materials and methods

Since 1974, the Japanese governmental authority (JIDRF) has assigned certificates to designated (specified,specific) intractable diseases patients to support their treatment financially following registration in a national database. The homepage of the Japan Intractable Diseases Information Center reports the “numbers of recipient certificates issued for specific disease treatment” based on registration beginning in 1974 or 1975, 1983 or 1984, and so on until 2014. The data show the number of presently registered patients in the current fiscal year (April 1 to March 31) as well as the number of newly registered patients, relative to the previous fiscal year for all these major patients. These increments could be negative if the number of presently registered patients in the present fiscal year was smaller than that in the previous fiscal year, which occurs occasionally. Since 1958, the governmental authority in Japan, the National Cancer Center, has been gathering cancer incidence data by registering patients and releasing the data to the public. In this report, incidence data of Parkinson disease, ulcerative colitis, and four bone specified intractable diseases were gathered with Mr.T.Miyaji’s kind guidance from 2004 to 2024 and were used. As to cancers and malignancies, available of incidence data were used from 2004 to 2021.

Data on airborne pollen dispersal were downloaded from the Tokyo Metropolitan Institute of Public Health website.

Results

1. In Week 22 of the 2025 Tokyo Metropolitan Government Infectious Disease Information Center's weekly sentinel surveillance report, the total number of KD cases reported was 117. This figure in 2025 exceeded the cumulative total of 90 cases reported through Week 22 in 2018, the previous record year, following the increase seen in 2024.We present a graph comparing the trend up to Week 44 of 2025 with those of previous four years. The cumulative number of KD cases through Week 47 of 2025 (243 cases) was shown to exceed the cumulative number through Week 47 of 2018 (191 cases).

In Tokyo, the pollen count in 2018 was the third highest on record (the highest was in 2005, and the second highest was in 2011). Meanwhile, during 2018–2019, the number of KD cases nationwide was 17,364 in 2018 and 17,347 in 2019—a very close margin—marking the highest number of affected children ever recorded for both years. During the same 2018–2019 period, new cancer cases across all types also reached record highs, paralleling KD cases: over 980,000 in 2018 and nearly 1 million in 2019. The number of registered patients for all designated intractable diseases also showed a continuous increase, with over 910,000 in fiscal year 2018, just under 950,000 in fiscal year 2019, and over 1.03 million in fiscal year 2020.

Figures 2 and 3 show the fluctuations in pollen counts in Tokyo over the period from 2004 to 2025, combined with the trends in the number of cases of KD, all cancer types, and all designated intractable diseases nationwide.

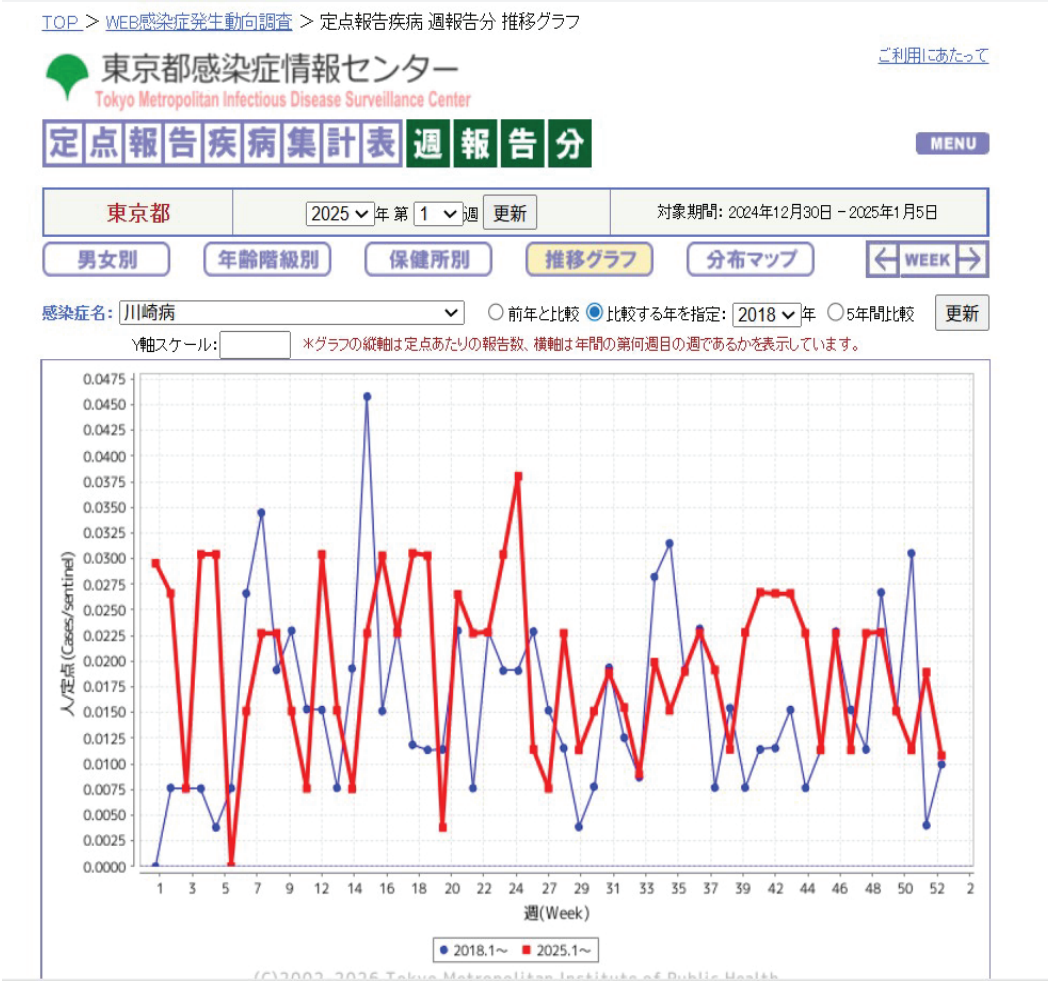

Figure 1. *Kawasaki disease(KD) incidence trends based on weekly fixed-point sentinel reports. Incidence trends data in 2025 were compared with those in 2018. Red graph is 2025. Blue graph is 2018.*

The number of KD cases was 10,041 in 2005, 11,756 in 2008, 12,774 in 2011, and 16,323 in 2015, showing an upward trend in patient numbers reaching over 15,000 cases until 2018–2019. However, KD patient numbers decreased during the COVID-19 pandemic from 2020 to 2022.

However, pollen counts ranked fifth in 2023 and sixth in 2024, marking two consecutive years of high pollen dispersal. Corresponding to this environment, the number of KD cases in Tokyo increased to 15,032 in 2023, and 14,809 in 2024, resuming an upward trend. This year, 2025, weekly reports indicate the highest incidence trend on record.

2. Based on the National Cancer Registry Report initiated by the National Cancer Center, we have previously reported on our analysis of pollen count fluctuations and cancer incidence trends over a 40-year span from 1975 to 2015 10,11,14,16. This time, the author created a graph plotting cancer incidence figures based on the National Cancer Registry Report, which includes updated data from 2016 to 2021. In this new graph, the dynamics of cancer incidence corresponding to the annual fluctuations in pollen counts can be observed as an extension of the results previously reported. This new graph shows the trend in cancer incidence corresponding to pollen count peaks in 2005, 2008-9, 2011, 2013, 2016, 2018, 2023, 2024, and 2025. In 2020 which was the first year of the COVID-19 pandemic, cancer incidence figures showed a slight decrease from the 2019 peak to 945,055 people. But, a rising trend is evident in 2021, with 988,900 cases reported.

However, it is regrettable that no rapid survey report data has been disclosed regarding the trend in cancer incidence from 2022 to 2024, unlike the incidence figures for designated intractable diseases, which are plotted on the same graph.

The most anticipated figure is the preliminary cancer incidence rate for 2024. However, prompt disclosure of at least the preliminary incidence rates for 2023 and 2022 would be beneficial. This data helps anticipate trends in the onset of designated intractable diseases and cancer, providing useful guidance for members of the patient association composed of patients and families striving to prevent disease, as well as for those involved in welfare initiatives.

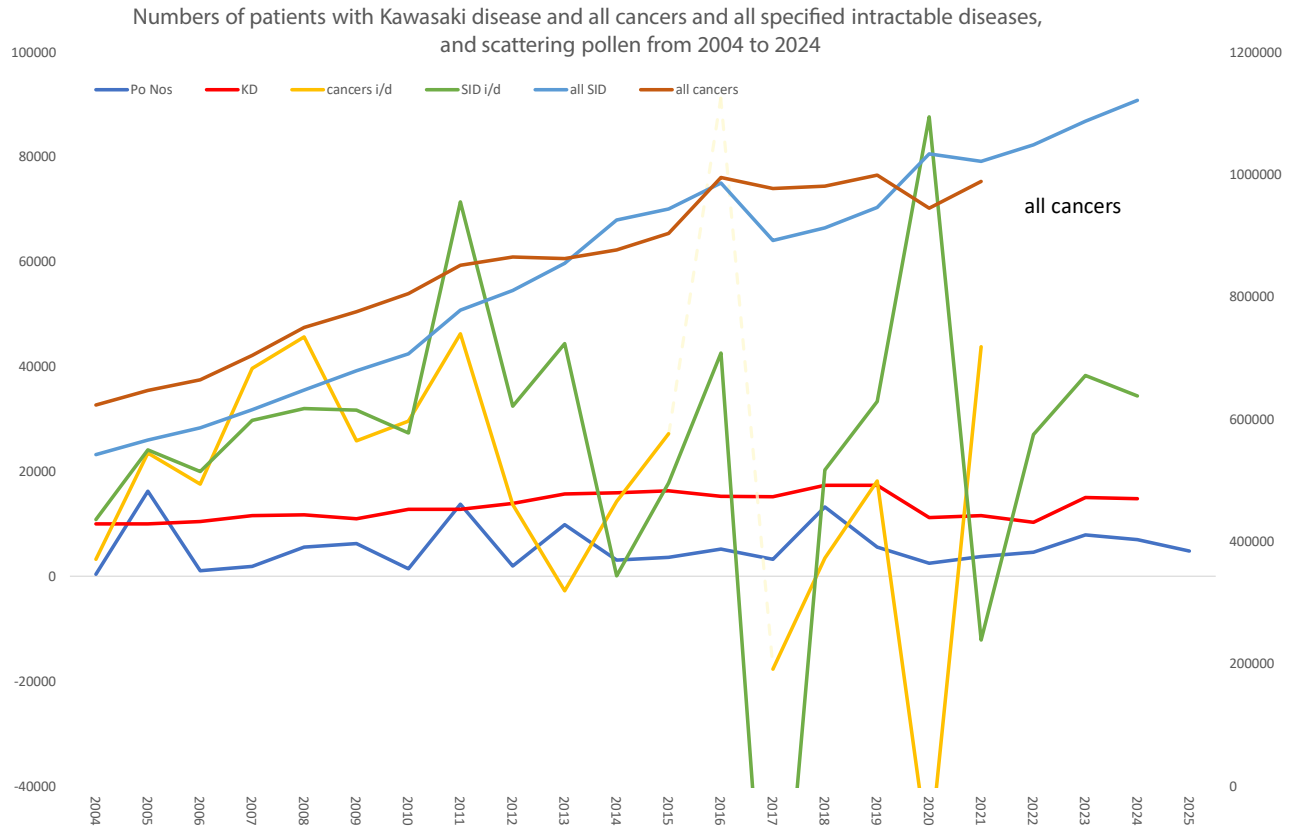

Figure 2. *Numbers of patients with Kawasaki disease and all cancers and all specified intractable diseases, and scattering pollen from 2004 to 2025. Specified intractable diseases (SID) graph in blue is to be noted compared with all cancers graph in brown using right axis scale. Left axis scale is used for other graphs. A part of the solid golden yellow line of graph is faintly depicted as a dotted line such as written in Results.*

3. The incidence figures for 2016, which were the second highest after 2019, present a point of concern regarding this graph. As described in the Cancer Registration Report, the 2016 incidence figures include reports from regions and municipalities that had not submitted data up to 2015, which were added to the 2016 total. The author employed the analytical method consistently used in previous studies to calculate the dynamics of the number of cases as the increase or decrease compared to the previous year. The trends in cancer incidence are shown in Fig. 2 as a golden yellow graph and in Fig. 3 as a blue graph, exhibiting movements consistent with the fluctuations in pollen counts.

The number of survey reports for 2016 was reported as a combined total due to the expanded scope of the survey. Therefore, the increase or decrease between 2015 and 2016 is presumed to be somewhat inflated compared to the actual change, a concern that had been anticipated beforehand. Therefore, we decided to display the number of survey reports for 2016 as a reference value. Accordingly, the solid golden yellow line from 2015 to 2017 in Fig.2 and the light blue line from 2015 to 2017 in Fig. 3 are faintly depicted as dotted lines (Fig. 2, Fig. 3).To elaborate, the sharp increase in the total number of cancer cases in 2016 compared to 2015 is thought to be attributable to an increase resulting from changes in the case registration system (full coverage of all medical institutions in all municipalities). The increase from the previous year based on the 2016 published figures differs from the natural increase due to pollen exposure in other years, as it stems from different conditions and factors. Consequently, this report treats it as reference data, and it is shown as a dotted line in Fig. 2 and Fig. 3.

4. To understand the actual details behind the increase or decrease in cancer incidence figures for 2016, we made our own efforts. We investigated the number of cancer cases among the combined population of approximately 23.49 million people in Tokyo (just under 14.27 million as of August 2025) and Kanagawa Prefecture (just under 9.22 million as of January 2025), which together account for about 20% of Japan's total population, based on available reports. Figure 3 shows a graph combining the number of cancer cases and the increase/decrease in cases in Tokyo during the period from 2012 to 2020 with those in Kanagawa Prefecture during the period from 2013 to 2021. Figure 4 compares only the increase or decrease in the number of cancer cases in 2016 between the national total, the Tokyo total, the Kanagawa total, and the combined total for both prefectures. As a result, the increase or decrease in the number of cancer cases in 2016 was 91,217 nationwide, 8,059 in Tokyo, 7,885 in Kanagawa, and 15,944 combined for both prefectures.

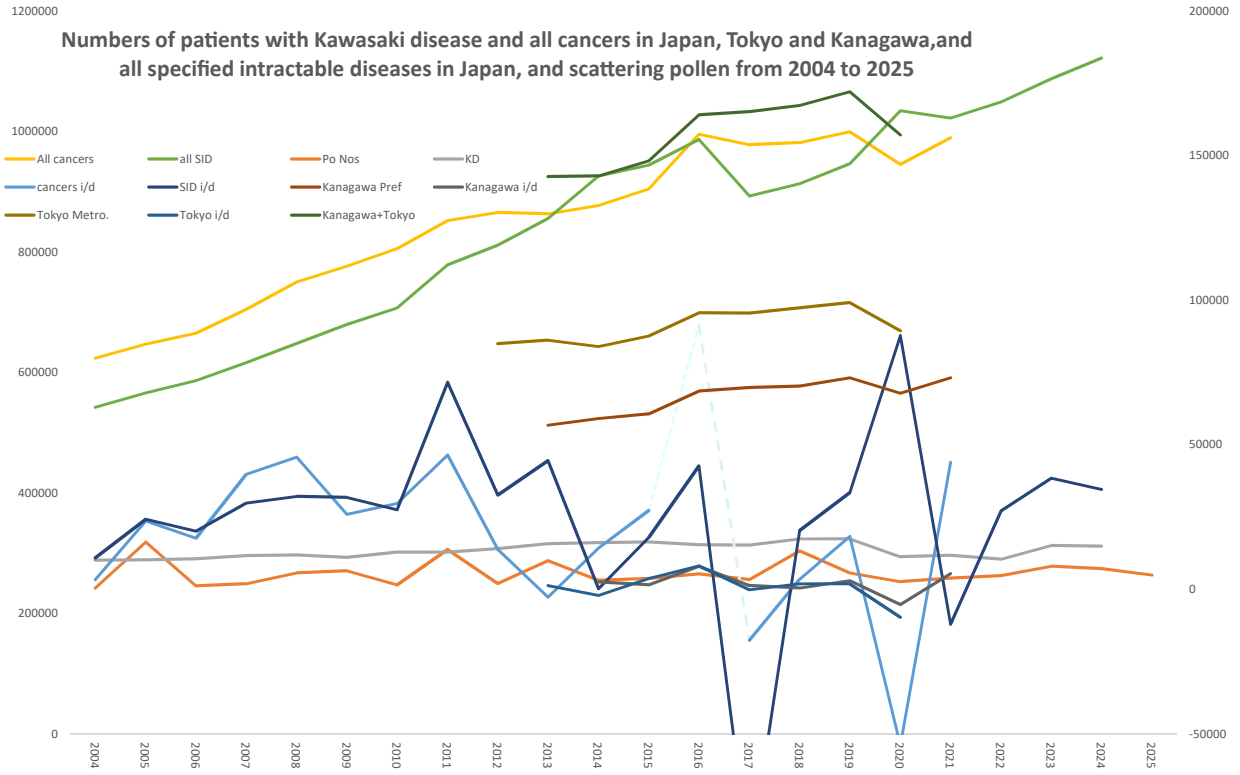

Figure 3. *Numbers of patients with Kawasaki disease and all cancers in Japan, Tokyo and Kanagawa, and all specified intractable diseases in Japan, and scattering pollen from 2004 to 2025. Specified intractable diseases (SID) graph in green is to be noted compared with all cancers graph in solid golden yellow using left axis scale. Right axis scale is used for other graphs including upper blue line graph. A part of pale blue line of graph is faintly depicted as a dotted line such as written in Results.*

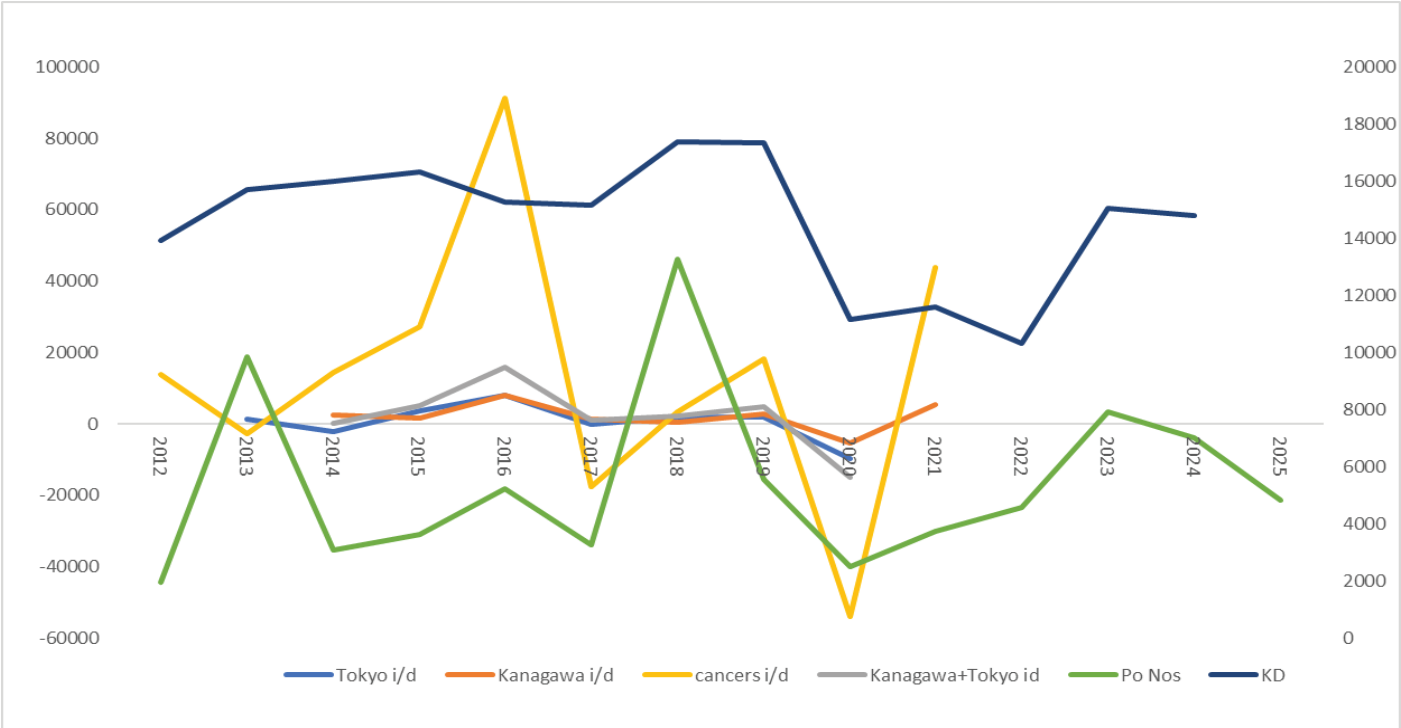

Figure 4. *Numbers of patients increase and decrease of all cancers compared withprevious years of all the Japan, Tokyo and Kanagawa, and patients with Kawasaki disease, and scattering pollen from 2013 to 2021.*
Right axis scale is used for blue and green line of graphs. Left axis scale is used for other graphs.

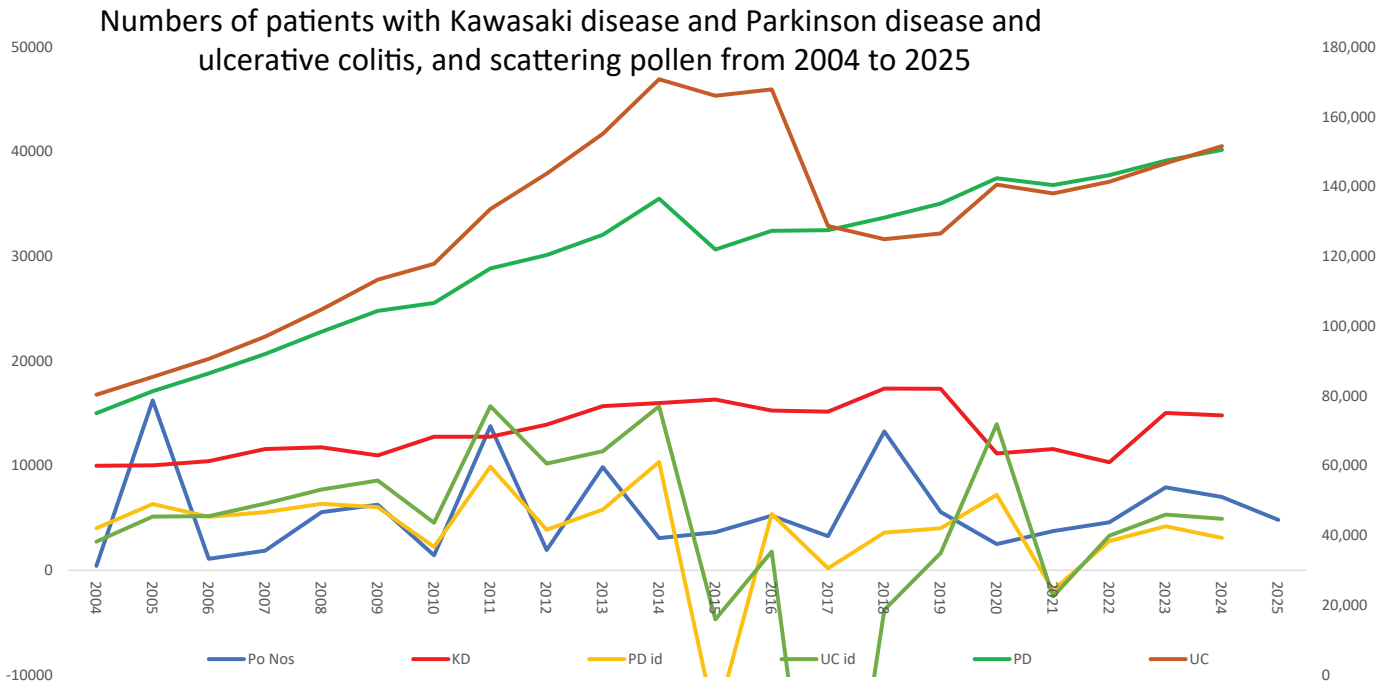

Figure 5. *Numbers of patients with Kawasaki disease and Parkinson disease and ulcerative colitis, and scattering pollen from 2004 to 2025. Right axis scale is used for brown and blue line of graphs. Left axis scale is used for other graphs.*

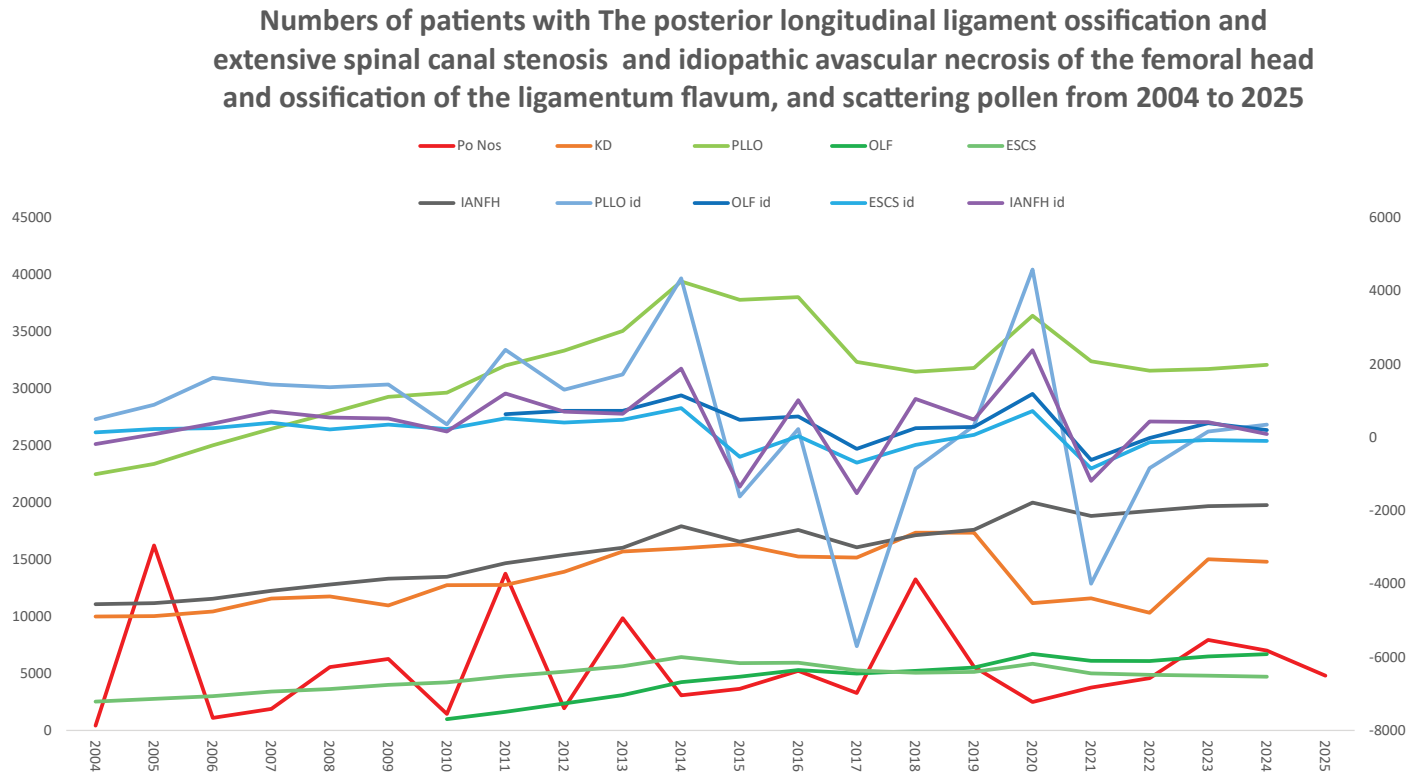

Figure 6. *Numbers of patients with The posterior longitudinal ligament ossification and extensive spinal canal stenosis and idiopathic avascular necrosis of the femoral head and ossification of the ligamentum flavum, and scattering pollen from 2004 to 2025. Right axis scale is used for four graphs of each bone SID id. Left axis scale is used for other graphs.*

Even when calculating five times the combined increase or decrease figures for the two prefectures, the total still fell far short of the nationwide increase or decrease total of 91,217 people. The figure of 995,131 people was reached as a result of a significant addition to the 2016 published data from reports by local governments that had not been reported until 2015.

5. Unlike cancer registrations, which report final figures only 3-4 years later, the number of designated intractable diseases registered each fiscal year is reported promptly. After the annual tally begins at the end of each fiscal year (March 31), the previous year's report is released by the Ministry of Health, Labour and Welfare in October, just seven months later. Fig 2 and 3 display the number of registered designated intractable diseases for fiscal year 2024. Unlike cancer, the number of new cases for all designated intractable diseases did not decrease even in 2020, the year the COVID-19 pandemic began. Following 1,033,770 cases in fiscal year 2020, 1,021,606 in 2021, 1,048,680 in 2022, 1,087,039 in 2023, and 1,121,462 in 2024, continuing an upward trend.

Regarding the increase and decrease in the number of designated intractable diseases (green graph), increases in the number of cases were observed in the same year or the following year(2005–2013, 2016, 2018) as the peak pollen exposure periods (2005, 2008–2009, 2011, 2013, 2016, 2018, 2023–2025). In some cases, increases in the number of cases in green were observed several years after pollen exposure peaks (2013 or 2018), such as in 2016 or 2020.

6. As the number of patients with all designated intractable diseases continues to rise, we also collected data on the incidence of ulcerative colitis and Parkinson's disease—the two major diseases among designated intractable diseases with by far the highest number of patients—and calculated the increase or decrease in their numbers, and graphed the results (Fig. 5). The number of new cases of Parkinson's disease increased steadily from 2004 to 2024. The number of new ulcerative colitis cases surged between 2010 and 2014, but then declined slightly until 2017. However, following the massive pollen exposure in 2018, a significant peak increase was observed in both ulcerative colitis and Parkinson's disease in 2020. During the period from 2004 to 2024, both ulcerative colitis and Parkinson's disease showed peaks in the number of new cases that coincided with and correlated with peaks in pollen dispersal.
7. While examining since 2018 the correlation between the registration trends of 40 designated intractable diseases and pollen dispersal fluctuations during the period from 1974 to 2014, we have not yet reported on the four bone-related designated intractable diseases. Therefore, we examined the trends in bone-designated intractable diseases during the new period from 2004 to 2024 and report our findings here (Fig. 6). Our analysis revealed that for most of the four designated bone diseases, a peak in the number of new cases was observed in each of the years 2011, 2014, 2016, 2018, 2020, and 2022.

In 2014 following heavy pollen exposure in 2011 and 2013, and in 2020 (during the COVID-19 pandemic) following heavy pollen exposure in 2018, there was a marked increase in four designated intractable bone diseases.

Discussion

1. As mentioned earlier, in 2018, Tokyo experienced its third-highest pollen count on record, which coincided with the largest increase in KD cases ever recorded. In 2019, the number of KD cases differed only slightly from that in 2018, and coincided with the highest number of cancer cases on record and an increase in the number of designated intractable diseases.

Following the end of the COVID-19 pandemic, in 2023–2024, Tokyo experienced two consecutive years of massive pollen dispersal, ranking fifth to sixth highest in the city's history. In 2025, Tokyo's pollen count was 70% of the 2024 level. According to the Tokyo Metropolitan Government sentinel surveillance weekly report on KD, the incidence of KD in 2025 was the highest on record. And the largest-ever incidence of KD has been going on. In such a situation, we live our lives. Recently, Japan Intractable Diseases Information Center reported that the number of registered designated intractable diseases for fiscal year 2024 reached 1,121,462, setting a new record high. Will the prediction that the unique synchronized phenomenon observed in 2018—the largest ever recorded incidence of KD coinciding with a surge in cancer cases—might occur again in 2025 or next year, 2026, prove accurate? Is this prediction currently unfolding in Japan, and what will happen going forward?

2. While infectious diseases like seasonal influenza are reported in real time, the public remains unaware of cancer incidence figures from 2022 to the present day, as shown in the Fig.2 and Fig.3, and as described in Results. After the annual tally of registered designated intractable diseases begins at the end of each fiscal year (March 31), the previous year's report is released by the Ministry of Health, Labour and Welfare in October in eg. 2024, just seven months later. In contrast, for cancer statistics surveys, the final figures for 2021 were only published this spring in 2025—four years later—resulting in a four-year delay between survey and publication. The figures from the Cancer Statistics Survey for 2022, 2023, and 2024, which have not yet been released, are what we want to compare and analyze in real time with the KD incidence trend surveys for 2022, 2023, and 2024 that Tokyo Metropolitan Government has already published. The author would jump at the chance to get these unpublished cancer incidence figures, but here is no way to compare them due to the situation mentioned above.
3. The Ministry of Health, Labour and Welfare is expected to publish cancer incidence figures as early as possible, even if only preliminary data, going forward. This will provide evidence demonstrating the government's seriousness in urging citizens to undergo health checkups and cancer screenings, which resonates strongly with the public.

It is an extremely difficult process to report definitive figures for large-scale aggregated data, including cancer mortality counts, all at once. There are, of course, institutional constraints requiring the creation and publication of statistical survey documents that are free from error. However, it is important to create and publish statistical survey documents with the perspective of aligning with the simple hopes of healthcare professionals and the general public who are actively engaged in daily activities. By proactively and preventively anticipating new cancer incidence trends among cancer patients, we can

Table 1. Excess of pollen exposure may trigger onsets of many intractable diseases

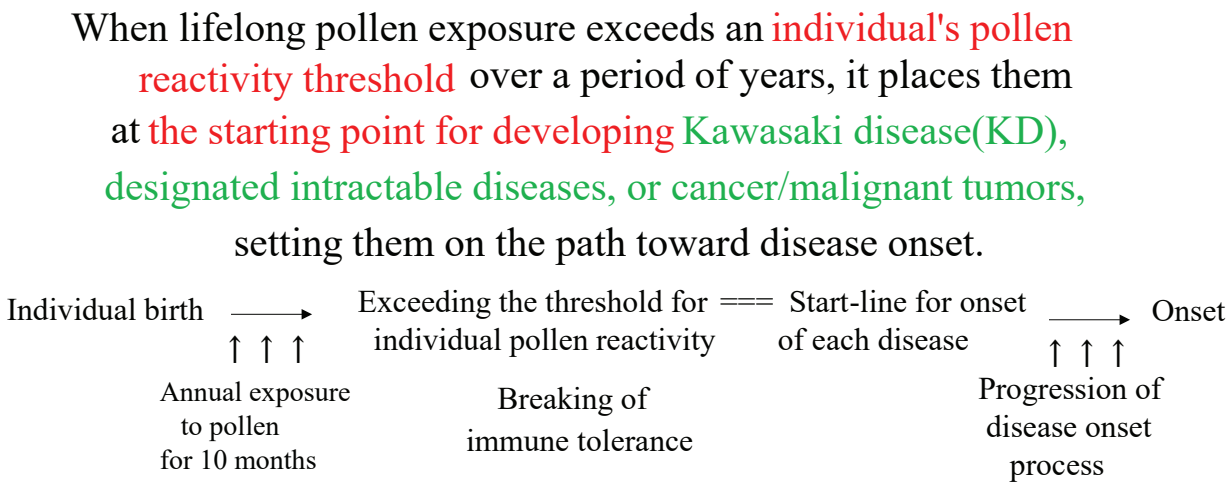

Table 2. Excess or enhancement of pollen reactivity may be trigger of onsets of intractable diseases

Excess or enhancement of pollen reactivity over own threshold of individual person's has been supposed to be trigger of onset of intractable diseases such as below shown.
A. Kawasaki disease (KD) [Variation of patients incidence of diseases has been analysed in relation to change of numbers of scattering pollens from 1970 to 2024]. • Childhood cancers? [Such data never found, below the same except for mentioned]. or Pediatric malignancies and cancers? • Juvenile Idiopathic Arthritis (JIA)?
B. Specified(designated) intractable diseases in Japan, Major forty diseases have been studied mainly from 1974 to 2014, • idiopathic dilated cardiomyopathy (IDCM); Takayasu arteritis (TAK) • granulomatosis with polyangiitis (GPA); periarteritis nodosa (PAN); pemphigus • polymyositis/dermatomyositis(PM/DM) • ulcerative colitis (UC) [evaluated from 1974 to 2024]; Crohn disease (CD) • Parkinson disease (PD) [evaluated from 1974 to 2024]; multiple sclerosis (MS) • Myasthenia Gravis(MG); amyotrophic lateral sclerosis(ALS) • spinocerebellar degeneration (SCD) • interstitial pneumonia (IP); primary biliary cholangitis (PBC) • The posterior longitudinal ligament ossification (PLLO) [evaluated from 2004 to 2024] • extensive spinal canal stenosis (ESCS) [evaluated from 2004 to 2024]
C. Cancers and malignancies. 24 species of cancers and malignancies have been evaluated mainly from 1975 to 2015. • Prostate Cancer; Stomach cancer; Kidney cancer; Cancer of Oral and Pharyngeal • Laryngeal Cancer • Skin cancer; Breast cancer; Lung cancer; Pancreas cancer • Cancer of the gallbladder and bile ducts. • Esophagus cancer; Thyroid cancer • Leukemia; Malignant lymphoma; Multiple myeloma • Bladder cancer; Uterine cancer; Corpus uteri cancer; Cervical cancer.
D. 1-type allergy and 4-type allergy (Delayed-type hypersensitivity) • Infant eczema?; Atopic dermatitis?; Food allergy; Childhood asthma? • Allergic rhinitis; Allergic conjunctivitis; Atopic cataract; Asthma? • Drug eruption?; Drug-induced hypersensitivity syndrome (DIHS)? • Stevens-Johnson syndrome (SJS)?; Toxic epidermal necrolysis (TEN)?

Table 3. Time of onset of each disease after pollen exposure over the own threshold of individual

Time of onset of each disease after pollen exposure over the own threshold of individual						
A. Kawasaki disease average 21.4 months among about 6,000 children in Kanagawa Prefecture						
B. Specified(designated) intractable diseases in Japan.						
the same year	**1-2 years**	**3 years**	**4 years**	**5 years**	**6 years**	**7 years onwards**
IDCM GPA PAN PM/DM UC CD PBC IP ALS PD MS MG SCD	IDCM PAN UC PD SDS ESCS	GPA PAN PBC UC CD ALS PD MS MG	PAN		TAK GPA PAN pemphigus PM/SM UC CD IP Amyloidosis PLLO SAP PD MS MG SDS HTD MMD	MMD CJD ESCS
C. Cancers and malignancies in Japan						
Prostate Cancer Skin cancer Stomach cancer Kidney cancer Leukemia Laryngeal Cancer Cancer of Oral and Pharyngeal	Breast cancer Lung cancer Pancreas cancer Kidney cancer Esophagus cancer Skin cancer Prostate cancer Malignant lymphoma Cancer of Oral and Pharyngeal Cancer of the gallbladder and bile ducts	Stomach cancer Malignant lymphoma Kidney cancer Uterine cancer Corpus uteri cancer Cancer of Oral and Pharyngeal	Thyroid cancer	Breast cancer Kidney cancer	Stomach cancer Skin cancer Esophagus cancer Lung cancer Multiple myeloma Uterine cancer Corpus uteri cancer Bladder cancer Cancer of the gallbladder and bile ducts	Thyroid cancer Laryngeal Cancer Skin cancer Prostate Cancer Cervical cancer Cancer of Oral and Pharyngeal

suppress cancer development in precancerous populations, thereby reducing the number of new cancer cases.

The Ministry of Health, Labour and Welfare is expected to design and implement a system as soon as possible whereby even preliminary figures for cancer incidence rates are provisionally released around June of the following year, preceding the formal publication of final data. This would significantly contribute to achieving the goal of promoting preventive medical health activities that lead to the early detection and treatment of cancer and malignant tumors.

Furthermore, it may be worth considering whether it is possible to implement weekly reports on cancer incidence, following the model of the Tokyo Metropolitan Government's weekly reports on KD.

4. There exists a linkage between multiple dynamic phenomena: the massive pollen dispersal that occurred in 2018, the increase in new Kawasaki disease cases during 2018–2019, and the rise in new cases of cancer/malignant tumors and designated intractable diseases during 2018–2019. The author wishes to name this the "2018-19 phenomenon." Moreover, looking at Fig. 2 (covering the period from 2004 to 2024), a chain phenomenon of simultaneous outbreaks can be observed in at least five locations. This chain involves an increase in Kawasaki disease, cancer and malignant tumors (blue peak), and designated intractable diseases (yellow-green peak) following years with high pollen exposure (the lowest blue peak). Furthermore, whether a sixth chain reaction will emerge in 2023 awaits the release of the latest cancer incidence data. We would like to draw attention once again to the high probability of the findings regarding the correlation between pollen exposure and the number of new cases of designated intractable diseases and cancer during the period from 1974/1975 to 2014/15, which we have already reported. Similarly, we hope that the findings newly added in this paper will also attract the attention of many people.
5. The fact that KD incidence figures are published in real time via the sentinel surveillance weekly reports constitutes invaluable epidemiological data. If the prediction holds true—that a high incidence of KD in a given year leads to a chain reaction of increased incidence in designated intractable diseases and cancers in that same year and the following one or two years—then cancer researchers should also recognize the importance of these sentinel surveillance weekly reports, thereby motivating them to implement such surveillance. Until then, the author believes the epidemiological value of the KD weekly report data within the Tokyo Metropolitan Infectious Disease Information Center's sentinel surveillance disease summary tables—which provide KD sentinel weekly reports—will remain extremely high. Assuming that weekly cancer incidence reports are available, we would like to know the latest preliminary figures, particularly for the past few years (2022, 2023, 2024), to determine whether the total annual cancer incidence can be predicted based on the number of cases reported by a certain week in spring, or whether it cannot.
6. The 2018-19 period marked the highest number of new KD cases in Japan's nationwide survey and the highest

number of new cancer cases in the National Cancer Center registry. Having experienced this, we feared that the annual incidence of KD would be high in 2024, as the number of cases reported in the 2024 Tokyo Metropolitan Government sentinel surveillance weekly report on KD through Week 22 was two more than in the weekly report through Week 22 in 2018. However, we learned that the incidence of KD, like seasonal influenza, was suppressed in the fall and beyond, due to the unexpected outbreak of Mycoplasma pneumonia. Therefore, it is also important medical information to determine whether designated intractable diseases and cancers/malignant tumors are diseases affected or unaffected by the Mycoplasma pneumonia epidemic. The number of registered patients with designated intractable diseases for fiscal year 2024 was reported in October as 1,121,462, as mentioned earlier. It was found that the overall number of designated intractable diseases showed no impact from the Mycoplasma pneumonia epidemic. From that perspective as well, we would like to know as quickly as possible, even if only in preliminary reports, what the registration numbers for cancer in fiscal year 2024 were. This is an issue we need to thoroughly examine to determine whether it will become an empirical rule alongside the "2018-19 phenomenon". Whether this will become an empirical rule in conjunction with the "2018-19 phenomenon" is an issue requiring thorough analytical examination.

7. However, the 2025 Tokyo Metropolitan Government sentinel surveillance weekly report on KD showed that the number of KD cases through week 36 was 32 higher than the number through week 36 in 2018. This has raised concerns since May 2025 that the number of new cases of cancer, malignant tumors, and designated intractable diseases may increase in 2025, similar to the "2018-19 phenomenon", a linkage between multiple dynamic phenomena, which consisted of the massive pollen dispersal that occurred in 2018, the increase in new KD cases during 2018–2019, and the rise in new cases of cancer/malignant tumors and designated intractable diseases during 2018–2019. Although the peak pollen season of spring 2025 has passed, to prevent the onset of these intractable diseases in susceptible individuals, it is recommended to avoid and take defensive action against the early release of cedar pollen from September to December, which, though in small quantities, possesses a booster effect.
8. Humans are inherently exposed to pollen for ten months each year. It is assumed that when exposure reaches a level exceeding an individual's pollen reaction threshold, they reach the starting point for developing designated intractable diseases or cancer (Tables 1-3). It is currently difficult to pinpoint the exact year of onset for designated intractable diseases or cancer in individual cases. However, if a simple clinical test item could be invented that could replace lymphocyte antigen stimulation tests for pollen during routine health checkups and screenings, it might be possible to use it as a routine diagnostic method. Until then, I hope that by comparing recent past data, we can demonstrate that early weekly reports on KD incidence among infants and children serve as early warning information, making it highly likely that we can predict and forecast the dynamics of this intractable disease's onset in that given year. That is why we want to know the reliable Ministry of Health, Labour and Welfare survey data as soon as possible. We hope that the government will establish a system to publish, at least as preliminary figures, the number of cancer cases and the number of registered designated intractable diseases from the previous year by the following spring. Ultimately, we hope to realize a rapid reporting system based on current weekly and monthly reports of cancer incidence numbers.

Will the current cancer incidence figures be released four years later as usual? This is critical information, so we request early release—even if only the incidence figures—be made available.

9. As findings indicating that the incidence of KD correlates with the incidence of designated intractable diseases and cancers/malignant tumors in adults accumulate and form collective knowledge, it is expected that research attention will turn to the universality of its physiological mechanisms (Tables 1-3). If researchers across various fields begin earnest investigations and issue a warning to the public that years with high incidence of KD may also see increased onset and prevalence of intractable diseases and cancer among adults, this could become a media appeal urging citizens to undergo cancer and intractable disease screenings and checkups at an early stage.

Citizens should recognize and internalize the importance of practical lifestyle actions, such as voluntarily wearing pollen-blocking masks and goggles daily or installing and operating air purifiers. It is desirable to incorporate these practices as new elements into existing cancer education.

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Conflicts of Interest

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