



OPEN ACCESS

Blurred vision as the first symptom of pancreatic cancer

Dorottya Pasztor ,¹ Eszter Zöld ,¹ Éva Szekanecz ,² Sarolta Molnár ,³ Nikolaos E Bechrakis,⁴ Eva Suranyi ¹

¹Department of Ophthalmology, University of Debrecen, Debrecen, Hungary

²Department of Oncology, University of Debrecen, Debrecen, Hungary

³Department of Pathology, University of Debrecen, Debrecen, Hungary

⁴Department of Ophthalmology, University of Duisburg-Essen, University Hospital Essen, Essen, NRW, Germany

Correspondence to

Dr Eva Suranyi;
suranyieva@hotmail.com

Accepted 9 April 2026

SUMMARY

This study presents a case and literature review of blurred vision as the first symptom of pancreatic cancer. A woman in her 60s was referred to our clinic because of visual impairment in her right eye. Ophthalmoscopic examination revealed a slightly elevated lesion in the macula. Primary tumour screening found a malignant mass in the cauda of the pancreas.

According to Shields *et al*, pancreatic cancer with uveal metastasis has one of the least favourable survival rates. Our patient survived 20 months after the appearance of ophthalmic symptoms and had a good quality of life for a relatively long time. After reviewing all published data on intraocular metastases of pancreatic cancer, it becomes evident that the detection of the intraocular manifestation precedes the detection of the primary in half of the cases.

Apparently, in fast-growing carcinomas, the symptomatology of the metastatic manifestation can precede the detection of the primary tumour.

BACKGROUND

Metastasis to the eye and specifically to the choroid can be the first manifestation of a distant tumour disease.^{1–5} The most common primary tumours are breast, lung and prostate cancers.^{3–6} The dominant symptom in primary ocular manifestations is blurred vision and/or visual field defects, which can be the first sign of malignancy in one-third of the cases. It would be important for both ophthalmologists and general medical practitioners to be aware of this possibility to avoid unnecessary delays in primary tumour detection, considering that detection of both primary and metastatic manifestations can be challenging, especially when the lesions are small and not characteristic in appearance. The most frequent tumour metastatic to the choroid is breast cancer (37%), followed by the lung (27%), gastrointestinal tract (4%), kidney (4%), prostate (2%) and skin (2%).^{3–5} Primary pancreatic carcinoma as the site of origin for intraocular metastasis is extremely rare and has been described only a few times.^{3–5,7–17}

Pancreatic cancer is the 14th most common cancer, usually diagnosed at an advanced stage resulting in a very poor prognosis, with a 5-year survival rate of less than 10% and the seventh highest cause of cancer death worldwide.^{8–10} It is observed that the incidence is increasing, predicting that pancreatic cancer will become



Figure 1 Fundus view on presentation showing an amelanotic mass at the macular region with a small melanocytic choroidal nevus at its lower margin (white asterisk).

the second-leading cause of tumour-related mortality by 2030 in the USA.

CASE PRESENTATION

A woman in her 60s was referred to our clinic because of visual impairment in her right eye. In the general medical history, there were type 2 diabetes treated with insulin (HbA1C 7.1%), hypothyroidism, anti-HCV positive chronic hepatitis, controlled paroxysmal supraventricular tachycardia, coronary stent due to stenosis and COVID-19 infection 11 months earlier (she received two vaccinations after that). She had an upper respiratory tract infection with fever and hearing loss several weeks before the onset of ophthalmic symptoms. A complete ophthalmologic evaluation was performed. Her best

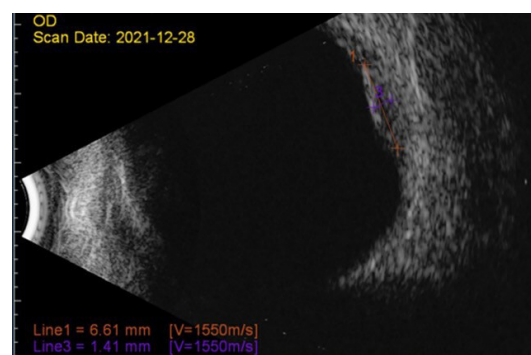


Figure 2 Ultrasound image of the metastatic lesion showing medium reflectivity.



© BMJ Publishing Group Limited 2026. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ Group.

To cite: Pasztor D, Zöld E, Szekanecz É, *et al*. *BMJ Case Rep* 2026;**19**:e267417. doi:10.1136/bcr-2025-267417

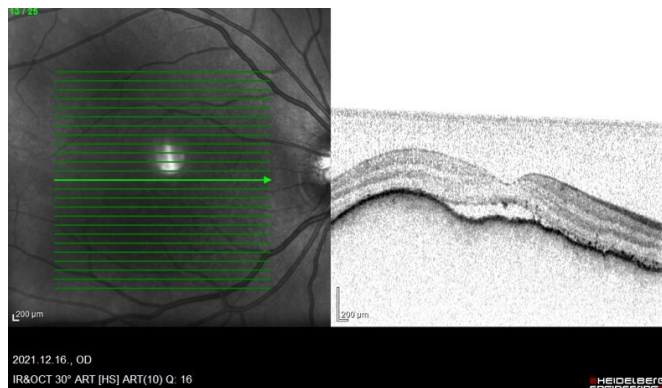


Figure 3 Optical coherence tomography image of the metastatic lesion with lumpy bumpy surface appearance and a discrete subretinal fluid accumulation under the fovea.

corrected visual acuity deteriorated from 20/20 1 month before presentation to 20/50 at presentation in the right eye and remained stable at 20/20 in the left eye. Ophthalmoscopic examination revealed a slightly elevated lesion in the macular area with a small (<2.0 mm wide) choroidal nevus at the lower edge (figure 1). The colour of the non-pigmented lesion was orange, similar to that of the adjacent normal fundus. Ophthalmic ultrasound showed a tumour thickness of 1.4 mm lesion with medium to low inner reflectivity, and the largest basal diameter was 5.6 mm (figure 2). Optical coherence tomography showed a choroidal lesion under the retinal pigment epithelium with a slightly undulated surface (lumpy bumpy appearance) and subretinal fluid accumulation (figure 3). According to the history and appearance of the lesion, it was not characteristic of metastasis, but there was a possibility; therefore, the patient was referred to the oncology department for primary tumour screening.

INVESTIGATIONS

The orbital MRI was negative. Laboratory reports showed elevated CA 72-4 (2x), CA 19-9 (24x), CA 125 and HE24 tumour marker levels. Multiple pulmonary metastases and involved lymph nodes were seen on chest CT. Whole

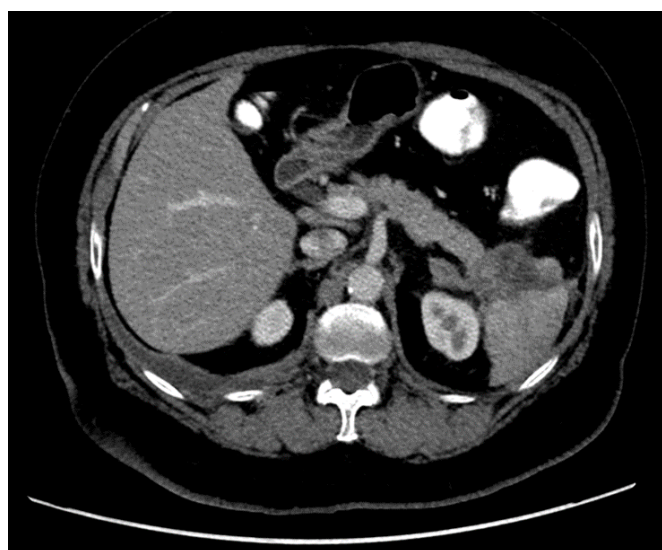


Figure 4 CT scan of the abdomen showing pancreatic CA with involved lymph nodes.

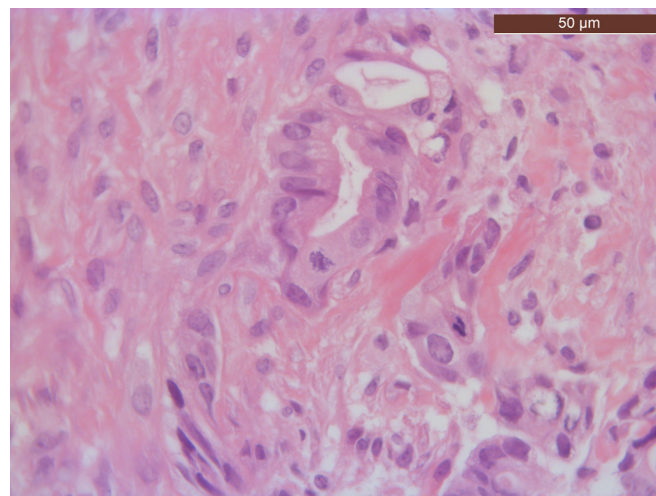


Figure 5 Histopathological image of the pancreatic adeno-CA.

abdominal and pelvic CT revealed a malignant mass in the cauda of the pancreas surrounded by pathologic lymph nodes, suspected metastatic lesions in the left adrenal gland and sclerotic metastases on the right side of the symphysis (figure 4). Biopsies of the pancreas and liver were performed. Histopathology confirmed the final diagnosis of pancreatic ductal adenocarcinoma metastatic to the liver with multiple bone metastases and pleural dissemination (figure 5). The patient received six cycles of FOLFIRINOX, a combination of chemotherapy for advanced pancreatic cancer (folinic acid, 5-fluorouracil, irinotecan and oxaliplatin).

OUTCOME AND FOLLOW-UP

On ophthalmic control 5 months after presentation, the appearance of the lesion changed, becoming yellow-brown and mottled (figure 6). The thickness was the same, and the basal diameter increased. Imaging modalities showed progression of the primary tumour and metastases; therefore, the therapy was changed to gemcitabine+nab-paclitaxel. After temporary remission, the tumour progressed again, and capecitabine was administered orally. Two months later on her last ophthalmic control, her best corrected visual

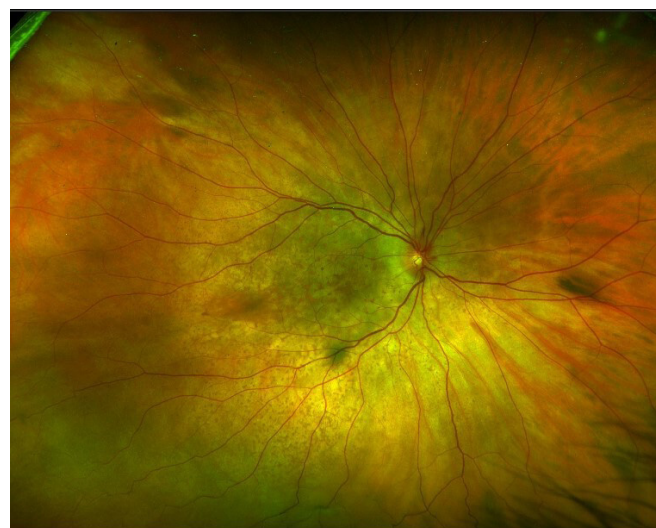


Figure 6 Fundus view after 3 months of treatment showing subtotal regression.

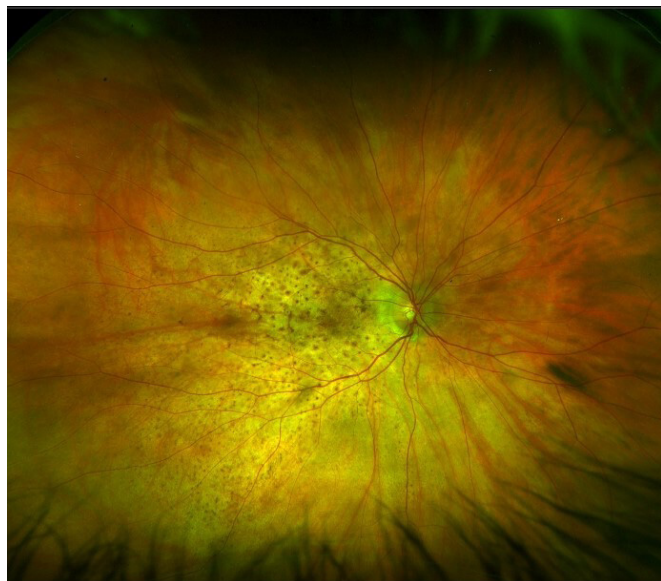


Figure 7 Fundus view after 12 months of treatment showing total regression.

acuity in the right eye increased from 20/50 to 20/20, and the lesion was almost flat ([figure 7](#)). The patient died as a consequence of systemic tumour progression 20 months after presentation.

The study was performed in accordance with the tenets of the Declaration of Helsinki, and informed consent was obtained from the patient. The Institutional Review Board approved the study.

DISCUSSION

Awareness of the possibility of pancreatic adenocarcinoma manifesting primarily as choroidal metastasis is important for ophthalmologists, general practitioners and oncologists. Approx. in one-third of uveal metastases from a distant primary, the detection of ocular metastases has preceded the diagnosis of the primary tumour.^{3 5 6} The most common primary site is the lung, 37% of cases, the second is the breast, 7% of cases, and in 50% of cases, the primary tumour will never be found.^{3 5} Pancreatic carcinoma as the site of origin is extremely rare and has been described only a few times ([table 1](#)).^{3 5 7 9 11–17}

According to Shields *et al*, uveal metastases arise from the pancreas in only 1% of all cases.³ Since the literature review on pancreatic cancer metastatic to the choroid by Shah *et al* in 2011, another four case reports have been published.^{12–14 17 18} The first article they found was written in 1974 which cited four more previous papers about intraocular metastases from primary pancreatic tumours. According to these references, the first case of pancreatic carcinoma metastatic to the eye was reported likely in 1914 by Arisawa in *Klinische Monatsblätter für Augenheilkunde*. The article was written in German and cannot be found on the internet. There was an article in 1962 written by Hart, which is not available on the internet either. The third cited article from 1967 by Albert *et al* mentions one case of metastasis from pancreatic origin, but it is not written whether to the eye, orbit or adnexa. The first actually relevant report of bilateral uveal and left optic nerve metastases from pancreatic cancer was written in 1967 by Ring.¹¹ In this case, a 59-year-old woman developed several abdominal, lower extremity and facial symptoms; she was diagnosed and treated with metastatic cancer of unknown origin. Six months later, ocular

Table 1 All published case reports and general summaries of pancreatic cancers metastatic to the uvea

Previous case reports	Number of cases before primary cancer diagnosis (9)	Number of cases after primary cancer diagnosis (11)	Sex F/M	Age	Type of primary cancer	Other metastases at presentation	Treatment	Follow-up	Comments
Ring, 1967	1		F	60	Carcinoma of the body of the pancreas (autopsy)	Lymph node, bone etc.	Cyclophosphamide photocoagulation	Died after 12 months	Case report
Solomon, 1974	1		F	72	Islet cell carcinoma (autopsy)	Lung	None	Died after 12 months	Case report
Castillo, 1995 (article in French)	1		M	45	Pancreatic cancer	Lymph node	None	Died after 5 months	Case report
Shields, 1997	1		M						General summary of uveal metastases
Lin, 2001	1		M	52	Pancreatic tail cancer	Yes	None	Died after 6 months	Case report
		1	M	63	NA	Yes	Teletherapy	Died	Case report
Nasser, 2002	1		F	72	Adenocarcinoma	Yes	Teletherapy	Died after 2 months	Case report
Shah, 2011	1		M	54	Adenocarcinoma (autopsy)	Lung, brain, right supraclavicular LN	Teletherapy	Died after 7 months	General summary of uveal metastases
		4			Adenocarcinoma, carcinoid	Yes	Brachytherapy	Two of them died	General summary of uveal metastases
Shields, 2018	3							Died after a mean of 4.2 months	General summary of uveal metastases
		5						Died after a mean of 4.2 months	General summary of uveal metastases
Singh, 2022		1	M	28	Adenocarcinoma	Liver, spleen	Chemotherapy	Died	Case report

symptoms started, and she died at the age of 61. Correct diagnosis was possible only after autopsy, which revealed pancreatic cancer.

After reviewing all published data on intraocular metastases of pancreatic cancer, it becomes evident that the detection of the intraocular manifestation precedes the detection of the primary in half of the cases. A similar finding has been described in lung adenocarcinoma, where choroidal metastases can precede the detection of the primary tumour in the lung.¹⁹ In contrast, breast cancer metastases to the choroid occur and are usually detected after the manifestation of the primary tumour.⁶ Apparently, in fast-growing carcinomas, the symptomatology of the metastatic manifestation can precede the detection of the primary tumour. Therefore, it is even more important to raise awareness in the medical community that visual symptoms can be the primary finding in patients with metastasising fast-growing carcinoma.

According to Shields *et al*, pancreatic cancer with uveal metastasis has one of the least favourable survival rates (0% at 5 years in their study); the patients died after a mean of 4.2 months.^{3 5} Our patient survived 20 months after the appearance of ophthalmic symptoms, and for a relatively long time, she had a good quality of life. On the one hand, the incidence of pancreatic cancer is increasing; on the other hand, oncological systemic treatments have undergone tremendous developments in the past few years.^{8 10 20 21} Although in the past, metastatic manifestations of the choroid were treated mainly by irradiation, nowadays, the mainstay lies in systemic treatment strategies, which have both an impact on prolonged patients' survival, as well as better functional preservation and patients' quality of life, just as in our case.

Learning points

- In fast-growing carcinomas, the symptomatology of metastatic manifestations may precede the detection of the primary tumour.
- Pancreatic cancer with uveal metastasis has one of the least favourable survival rates.
- Intraocular manifestation precedes the detection of the primary in half of the cases.
- It is important to raise awareness in the medical community that visual symptoms can be the primary finding.

Contributors The following authors were responsible for drafting of the text, sourcing and editing of clinical images, investigation results, drawing original diagrams and algorithms and critical revision for important intellectual content: DP, EZ, ES, SM, NEB and ES. The following authors gave final approval of the manuscript: ES and NEB. Guarantor name and preferred contact details: ES.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Consent obtained from next of kin.

Provenance and peer review Not commissioned; externally peer reviewed.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <https://creativecommons.org/licenses/by-nc/4.0/>.

Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

ORCID iDs

Dorottya Pasztor <https://orcid.org/0000-0002-1390-0548>

Eszter Zöld <https://orcid.org/0009-0003-1342-8858>

Éva Szekanecz <https://orcid.org/0000-0001-9848-547X>

Sarolta Molnár <https://orcid.org/0009-0005-8855-8272>

Eva Suranyi <https://orcid.org/0000-0002-7951-6004>

REFERENCES

- 1 Kreusel K-M, Bechrakis N, Wiegell T, *et al*. Clinical characteristics of choroidal metastasis. *Ophthalmology* 2003;100:618–22.
- 2 Kreusel KM, *et al*. Intraocular metastases of metastatic breast carcinoma in the woman. *Incidence, Risk Factors and Therapy* *Ophthalmology* 2000;97:342–6.
- 3 Shields CL, Kalafatis NE, Gad M, *et al*. Metastatic tumours to the eye. Review of metastasis to the iris, ciliary body, choroid, retina, optic disc, vitreous, and/or lens capsule. *Eye (Lond)* 2023;37:809–14.
- 4 Shields CL, Shields JA, Gross NE, *et al*. Survey of 520 eyes with uveal metastases. *Ophthalmology* 1997;104:1265–76.
- 5 Shields CL, Welch RJ, Malik K, *et al*. Uveal Metastasis: Clinical Features and Survival Outcome of 2214 Tumors in 1111 Patients Based on Primary Tumor Origin. *Middle East Afr J Ophthalmol* 2018;25:81–90.
- 6 Kreusel K-M, Bechrakis NE, Krause L, *et al*. Incidence and clinical characteristics of symptomatic choroidal metastasis from breast cancer. *Acta Ophthalmol Scand* 2007;85:298–302.
- 7 Lin CJ, Yang CM, Chen MS. Intraocular metastasis of pancreatic cancer: report of two cases. *Retina* 2001;21:666–9.
- 8 McGuigan A, Kelly P, Turkington RC, *et al*. Pancreatic cancer: A review of clinical diagnosis, epidemiology, treatment and outcomes. *World J Gastroenterol* 2018;24:4846–61.
- 9 Nasser M, Haj M, Nassar F. Carcinoma of pancreas presenting as a decrease in visual acuity. *Hepatogastroenterology* 2002;49:558–60.
- 10 Park W, Chawla A, O'Reilly EM. Pancreatic Cancer: A Review. *JAMA* 2021;326:851–62.
- 11 Ring HG. Pancreatic Carcinoma With Metastasis to the Optic Nerve. *Arch Ophthalmol* 1967;77:798–800.
- 12 Shriram J, Stoltz R, Borazanci E. Choroidal metastasis of pancreatic adenocarcinoma: case report. *AME Case Rep* 2024;8:22.
- 13 Singh A, Malik D, Singh S, *et al*. Choroidal metastasis in pancreatic adenocarcinoma. *J Cancer Res Ther* 2022;18:263–5.
- 14 Smith E, Tran T. Recurrence of Pancreatic Cancer Presenting as Choroidal Metastasis: A Case Report. *Case Rep Ophthalmol* 2021;12:854–8.
- 15 Solomon SM, Nickel JR. Pancreatic islet cell carcinoma metastatic to the eyes. *Am J Ophthalmol* 1974;78:806–10.
- 16 Castillo J, Ascaso FJ, Aguelo JM, *et al*. Bilateral choroidal metastases of pancreatic carcinoma. *J Fr Ophthalmol* 1995;18:795–8.
- 17 Shah SU, Shields CL, Bianciotto CG, *et al*. Pancreatic cancer metastasis to choroid. *Ophthalmology* 2011;118:1483.
- 18 Hiniker A, Oakes SA, Rao RC. Bilateral Choroidal Metastases from Pancreatic Adenocarcinoma. *Ophthalmology* 2017;124.
- 19 Kreusel K-M, Bechrakis NE, Wiegell T, *et al*. Incidence and clinical characteristics of symptomatic choroidal metastasis from lung cancer. *Acta Ophthalmol* 2008;86:515–9.
- 20 Kratzer TB, Bandi P, Freedman ND, *et al*. Lung cancer statistics, 2023. *Cancer* 2024;130:1330–48.
- 21 Lovly CM. Expanding Horizons for Treatment of Early-Stage Lung Cancer. *N Engl J Med* 2022;386:2050–1.

Copyright 2026 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <https://www.bmj.com/company/products-services/rights-and-licensing/permissions/>
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

Customer Service

If you have any further queries about your subscription, please contact our customer services team on +44 (0) 207111 1105 or via email at support@bmj.com.

Visit casereports.bmj.com for more articles like this and to become a Fellow