CASE REPORT

Gestational trophoblastic disease in a Greenlandic Inuit: diagnosis and treatment in a remote area

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SUMMARY

We report on a 21-year-old pregnant Greenlandic Inuit woman, who presented at a small local hospital in Northern Greenland. The patient suffered from lower abdominal pain, irregular bleeding and vomiting. urine-human chorionic gonadotropin (U-hCG) was positive. Ultrasonography showed the typical 'snow-storm' images of a mole pregnancy. Owing to the fact that local physicians were able to perform an ultrasound, proper diagnosis could be established, and the patient was transferred to the regional hospital, located nearly 1200 km away. At the regional hospital, uterine evacuation was performed under general anaesthesia. Blood analysis showed that serum hCG returned to undetectable levels, and the patient recovered uneventfully. Our case shows that ultrasonography is a valuable diagnostic tool also in remote areas. In Greenland, geographical distances are large and weather conditions can be extreme, and in this report, we discuss how healthcare can be optimised in remote areas.

CASE PRESENTATION

Hydatidiform mole is a rare, abnormal pregnancy, which, like all other forms of gestational trophoblastic disease, is derived from the components of the normal human placenta.

We describe a case of a 21-year-old Greenlandic Inuit woman, para 3 and gravida 5, who presented with vomiting, irregular bleeding, lower abdominal pain and vaginal discharge. She had been taking oral contraceptive pills, though not regularly. Her most recent menstrual period had been 8 weeks prior. A human chorionic gonadotropin (HCG) urine test was positive, and no signs of urinary infection were found. Cultures from the vaginal discharge were negative.

At gynaecological investigation, the uterus was larger than expected. Transvaginal and abdominal ultrasonography was performed as symptoms persisted, and showed an intrauterine hydatidiform mole pregnancy resembling the so-called 'snow-storm sign' (figures 1 and 2). To confirm the findings, the ultrasound images were sent to a specialist in obstetrics/gynaecology.

Differential diagnosis in a pregnant patient presenting with vaginal bleeding and lower abdominal pain is ectopic pregnancy and spontaneous abortion. Monitoring of serum hCG (S-hCG) levels can be helpful to differentiate between these different conditions.

Northern Greenland is a remote area with large geographical distances and extreme weather conditions. As ultrasonography showed classical signs of

Figure 1 Transvaginal ultrasonography showing an intrauterine hydatidiform mole pregnancy resembling the so-called 'snowstorm sign'.

a hydatidiform mole pregnancy, the patient was transferred by aeroplane to the nearest regional hospital with anaesthetic and surgical care, which was located nearly 1200 km away. The patient underwent uterine evacuation with vacuum suction and surgical curettage under general anaesthesia. Pathological examination revealed a complete molar pregnancy.

Figure 2 Classical appearance of a hydatidiform mole pregnancy.

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Follow-up included weekly measuring of S-hCG levels until these had fallen to an undetectable level.^{1 2} The patient recovered uneventfully.

GLOBAL HEALTH PROBLEM LIST

- ▶ Providing specialised healthcare is a major challenge in remote areas.
- ▶ Large geographical distances and extreme weather conditions contribute to the problem of providing necessary healthcare for patients living in remote areas of not only Greenland, but also other remote areas throughout the world.
- ▶ Proper diagnosis of pathological conditions and diseases requires expertise and diagnostic equipment, which might be a problem in remote areas.

GLOBAL HEALTH PROBLEM ANALYSIS

Providing sufficient healthcare is a major global health problem in remote areas. Medically and healthcare-wise, Greenland is challenged because of a low population density, large geographical distances and, at times, extreme weather conditions. Along the coastline are 1½ dozen villages, each with from 500 to 6000 inhabitants. In these villages, there are small hospitals with general physicians, who provide both primary and secondary healthcare for the population. Some of the large villages have regional hospitals that provide anaesthetic and surgical care. The capital, Nuuk, with 17 000 inhabitants, has a national hospital with specialised care.

Aside from these villages, there are numerous settlements, each with from 20 to 450 inhabitants. In these settlements, there are small clinics that provide healthcare to the population. Each healthcare clinic in the settlements has a telemedicine device called a 'Pipaluk', which is able to measure blood pressure, pulse and oxygen saturation, record ECG and auscultation of the heart and lungs, take photographs of skin and body parts, capture otoscope images and perform video calls. Healthcare personnel working in these clinics contact physicians and nurses at the local and regional hospitals using the 'Pipaluk' to transfer clinical information. Based on this clinical information, physicians and nurses at the hospitals advise personnel at the clinics in the settlements on diagnosis and treatment for the patients.

Patients with medical emergencies and dire necessities are transferred from the clinics in the settlements to the local hospitals in the villages when necessary, and when weather conditions allow.

In a similar way, physicians at local hospitals in the villages can use the 'Pipaluk' to consult the regional hospital and national hospital. Based on this, the 'Pipaluk' facilitates proper diagnosis and treatment.

Sometimes, patients with medical emergencies and dire necessities are transferred from the local hospital to the regional or national hospital if necessary, and when weather conditions allow. Distances can be very vast, as in the present case, where the patient travelled nearly 1200 km from the local to the regional hospital.

Aside from the use of telemedicine to provide specialised expertise and healthcare, physicians who decide to work in Greenland can start a 2-year postresidency programme in 'Greenlandic medicine'. The programme includes, among others, training in surgery, obstetrics/gynaecology, medicine, paediatrics and psychiatry, in order to properly diagnose and treat diseases common in Greenland.

In addition, to optimise healthcare, local physicians should have access to certain diagnostic equipment, and should be trained in performing diagnostic investigations, for example, ultrasonography.

Our case shows the value of ultrasonography to distinguish between normal and pathological pregnancies, also in remote areas. Even though experience with ultrasonography might be limited in remote areas, local physicians can be guided in ultrasonography by video-consultation, or alternatively may send images for confirmation.

Learning points

- ▶ In the second trimester, findings of a molar pregnancy on ultrasonography are very characteristic, resembling a so-called 'snowstorm' appearance. However, before the second trimester, symptoms and findings of a molar pregnancy can be vague.
- ▶ Follow-up after uterine evacuation with monitoring of serum human chorionic gonadotropin (S-hCG) levels is of major importance, since plateaued or rising levels may suggest recurrence of disease or malignant change.
- ▶ Ultrasound should be available even at distant and remote areas.
- ▶ Telemedicine may increase specialised healthcare in areas with a low population density, large geographical distances and, at times, extreme weather conditions.
- ▶ Postresidency training programmes such as 'Greenlandic medicine' increase diagnostic and treatment skills for physicians working in certain specific remote areas.

Competing interests None declared.

Patient consent Obtained.

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REFERENCES

- 1 Seckl MJ, Sebire NJ, Fisher RA, *et al.* Gestational trophoblastic disease: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol* 2013;24(Suppl 6):vi39–50.
- 2 Niemann I, Vejerslev LO, Frøding L, *et al.* Gestational trophoblastic diseases—clinical guidelines for diagnosis, treatment, follow-up, and counselling. *Dan Med J* 2015;62: A5082.

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