大学受験パス㋮ 過去問ライブラリー

大分大学

英語

問題

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【学部】 医学部

【入試名】 前期日程

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旺文社

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1 次の英文を読んで，以下の問いに答えなさい。

In the summer of 2008, I met a woman with (1)a family history of breast cancer. Jane Sterling was a thirty-seven-year-old nurse from the North Shore of Massachusetts. The story of her family could have been plucked straight out of Mary-Claire King's case files: a great-grandmother with breast cancer at an early age; a grandmother who had had a radical mastectomy for cancer at forty-five; a mother who had had bilateral breast cancer at sixty. Sterling had two daughters. She had known about *BRCA1* testing for nearly a decade. When her first daughter was born, she had considered the test, but neglected to follow up. With the birth of the second daughter, and the diagnosis of breast cancer in a close friend, she came to terms with gene testing.

Sterling tested positive for a *BRCA1* mutation. Two weeks later, she returned to the clinic armed with sheaves of papers scribbled with questions. What would she do with the knowledge of her diagnosis? Women with *BRCA1* have an 80 percent lifetime risk of breast cancer. But (2)the genetic test tells a woman nothing about when she might develop the cancer, nor the kind of cancer that she might have. Since the *BRCA1* mutation has incomplete penetrance, a woman with the mutation might develop inoperable, aggressive, therapy-resistant breast cancer at age thirty. She might develop a therapy-sensitive variant at age fifty, or a smoldering, indolent variant at age seventy-five. Or she might not develop cancer at all.

When should she tell her daughters about the diagnosis? "Some of these women [with *BRCA1* mutations] hate their mothers," one writer, who tested positive herself, wrote (the hatred of mothers, alone, illuminates (3)the misunderstanding of genetics, and its debilitating effects on the human psyche; the mutant *BRCA1* gene is as likely to be inherited from a mother as it is from a father). Would Sterling inform her sisters? Her aunts? Her second cousins?

The uncertainties about outcome were compounded by uncertainties about the choices of therapy. Sterling could choose to do nothing — to watch and wait. She could choose to have bilateral mastectomies and/or ovary removal to sharply diminish her risk of breast and ovarian cancer — "cutting off her breasts to spite her genes," as one woman with a *BRCA1* mutation described it. She could seek intensive screening with mammograms, self-examination, and MRIs to detect early breast cancer. Or she could choose to take a hormonal medicine, such as tamoxifen, which would decrease the risk of some, but not all, breast cancer.

Part of the reason for this vast variation in outcome reflects the fundamental biology of *BRCA1*. The gene encodes a protein that plays a critical role in the repair of damaged DNA. For a cell, a broken DNA strand is a catastrophe in the making. It signals the loss of information — a crisis. Soon after DNA damage, the *BRCA1* protein is recruited to the broken edges to repair the gap. In patients with the normal gene, the protein launches a chain reaction, recruiting dozens of proteins to the knife edge of the broken gene to swiftly plug the breach. In patients with the mutated gene, however, the mutant *BRCA1* is not appropriately (4) recruited, and the breaks are not repaired. The mutation thus permits more mutations — like fire fueling fire — until the growth-regulatory and metabolic controls on the cell are snapped, (5) ultimately leading to breast cancer. Breast cancer, even in *BRCA1*-mutated patients, requires multiple triggers. The environment clearly plays a role: add X-rays, or a DNA-damaging agent, and the mutation rate climbs even higher. Chance plays a role since the mutations that accumulate are random. And other genes accelerate or mitigate the effects of *BRCA1* — genes involved in repair of the DNA or the recruitment of the *BRCA1* protein to the broken strand.

The *BRCA1* mutation thus predicts a future, but not in the sense that a mutation in the cystic fibrosis gene or Huntington's disease gene predicts the future. The future of a woman carrying a *BRCA1* mutation is fundamentally changed by that knowledge — and yet it remains just as fundamentally uncertain. For some women, the genetic diagnosis is all-consuming; it is as if their lives and energies are spent anticipating cancer and imagining survivorship — from an illness that they have not yet developed. A disturbing new word has been coined to describe these women: (6) *previvors* — *pre*-survivors.

〔注〕

aggressive：進行が早い
BRCA1：がん抑制遺伝子のひとつ
compound：悪化させる，こじらせる
debilitating：衰弱させる
growth-regulatory：増殖調節
Huntington's disease：ハンチントン病
inoperable：手術不可能な
mastectomy：乳房切除(術)
mitigate：軽減する
MRI(＝magnetic resonance imaging)：磁気共鳴映像法
mutant：突然変異した
bilateral：両側の
coin：造りだす
cystic fibrosis：のう胞性線維症
diagnosis：診断
hormonal：ホルモンの
indolent：無痛性の
mammogram：マンモグラム，乳房X線写真
metabolic：代謝(性)の
ovarian cancer：卵巣がん

ovary removal：卵巣摘出　　penetrance：浸透率，浸透度

pluck：取り出す　　plug：穴埋めする

protein：タンパク質　　psyche：精神

screening：検査　　scribble：なぐり書きをする

sheaves of～：何束かの～　　smoldering：くすぶり型の

spite：わざと困らせる　　strand：鎖

tamoxifen：タモキシフェン(がんの治療に用いる薬)

therapy-resistant：治療抵抗性の　　trigger：誘因

variant：変異型

問 1　下線部(1)の具体的な内容を日本語で説明しなさい。

問 2　下線部(2)を日本語に訳しなさい。

問 3　下線部(3)の具体的な内容を日本語で説明しなさい。

問 4　下線部(4)と(5)の本文中の意味に最も近いものを，それぞれア～エの中から 1 つ選び，記号で答えなさい。

(4) breach　〔ア．chemical　イ．gap　ウ．recruit　エ．whitening〕

(5) snapped　〔ア．broken　イ．increased　ウ．permitted　エ．repaired〕

問 5　下線部(6)は具体的にどのような女性か。30～40 字(句読点を含む)の日本語で説明しなさい。

2 次の英文を読んで，ａ～ｆの〔　　〕内の語(句)を正しく並べ替え，本文中の【 (1) 】～【 (6) 】の適切な場所に入れなさい。(ａ，ｂなどの記号は書かず，並べ替えた英文を記入すること。)

My first real job. Thirteen years since high school — in training, in hospitals, in books. All of a sudden at 8 a.m. tomorrow morning I would suddenly become Dr. Dhillon. Time to heal and fix. I began my first real posting as a rural physician in a small town in rural Saskatchewan. A beautiful little hospital, staff happy to see a young doctor in town, and the welcoming red and green of the local Co-op sign.

The day began innocuously enough: morning rounds at the hospital, learning about all the patients who had been handed over to my care for the next two weeks; trying to decipher other physicians' illegible writing and promising to never let mine get that bad, and failing quickly at that.

"Hello, good morning. My name is Dr. Dhillon and【 (1) 】little while until your doctor is back."

With a vague idea of what was actually happening inside each patient's body, and not a clue what was happening in their minds, I popped in from room to room as【 (2) 】of things to check and recheck after the morning ward round was done. Thankfully, the nurses were there to handle any miscues and give me a vital, two-to-three-sentence summary of the patient and any concerns before entering into their realm with a quick knock on a half-opened door.

When I got to the last patient I was to see that morning, I found his door was closed. It was at the back corner of the hospital. It was darker.

"This is Gary, he's dying."

The nurse's tone of voice lowered, naturally, to the level we use when discussing death, just in case death was nearby and would hear and come hither to hasten the process.

"Metastatic, it was too late when he came in. Really sad story. He's still so young." She continued.

I gently knocked, lighter, more gently【 (3) 】a gall-bladder attack whom I had just chatted to.

"Hello Gary, how are you this morning?" is what I said.

"Hello, who are you?" he asked.

"My name is Paul and I'll be your doctor until your normal doctor comes back." I couldn't bear to say I was Dr. Dhillon. What was I going to doctor in his case?

"I'm leaving on Tuesday. Next week. To be closer to home," he said.

"That's great, so that's something to look forward to then." Inside, I wondered, *Was that even appropriate to say?*

The nursing staff didn't have any new concerns, and he was eating and pain-free on his current medications, so we ended our morning chat and I went off to the clinic to finish off the rest of the day.

Over the next week, our talks extended.

I was able to meet his family, his children. From conversations overheard while walking in the hallways, from nursing staff handovers, a picture of a life emerged. Not just a yellowed man dying in a wheelchair who couldn't breathe; a picture of a man【 (4) 】. A man that had his life enter the twists and turns that occur in all our lives, but in his case, the road stopped much too early.

It was a week later, on a quiet Monday morning, that I noted his birthday was the following day.

His last birthday ever.

We physicians are notoriously bad at predicting death. But I knew in this case.

Through our conversations, I had the sense that he would appreciate a birthday cake. He was a farmer before fighting the unseen cancer cells had become his full-time occupation. It could be that he had not had a proper birthday cake in years. He【 (5) 】something like that.

He had time now. But not that much time.

On the rainy morning of his birthday, I was able to collect a number of the nurses, light some candles, and walk into his room to see a look first of confusion then surprise on his face, and then a smile that for a moment wiped the disease from the room and replaced it with pure happiness.

One of the nurses reminded him to first take off his nasal cannula blowing oxygen through to his lungs before bringing the flames close to him. *Phew.*

I left before having a chance to try the cake with him and his family, but I stuck my head in the door that afternoon. I knew, he knew, that he was leaving.

"Thanks, Doc, that was the best cake I have ever had. It was amazing."

He'll never【 (6) 】. There was nothing years of training could have taught me to have made that situation any better for him medically. But I would like to think I made him a little happier.

His friend told me afterwards in the hallway that he was happy all day.

Then he was gone.

〔注〕

Co-op：生協
decipher：解読する
gall-bladder attack：胆のう(胆石)痛
handover：引き継ぎ
hither：こちら(側)へ
illegible：読みにくい，判読できない
innocuously：無難に
medication：薬
metastatic：転移(性)の
miscue：間違い，ミス
nasal cannula：鼻カニューレ(鼻腔に挿入して酸素を供給する管)
overhear：たまたま耳にする
phew：大きく息を吐きながら言う「ヒューッ」
round：回診
wheelchair：車いす

a．〔words / made / know / me feel / how those〕

b．〔as I / a list / be while / could / cheerful / making〕

c．〔an eye / I'll / on / be / you for / keeping / the next〕

d．〔time for / been too / harvesting to / would have / take / busy〕

e．〔battling / to him / something completely / was / foreign / who / against〕

f．〔who / from / knock for / compared / the patient / was / recovering / to the〕

3　著作権等の都合で問題掲載を見合わせております。